NSW Rural Doctors Network

25 years on: Outcomes of a unique bonded medical scholarship

The second longitudinal evaluation of the NSW Rural Resident Medical Officer Cadetship Program

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Supporting rural health in New South Wales

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Abbreviations

ACRRM	Australian College of Rural and Remote Medicine
ACT	Australian Capital Territory
AGM	Annual General Meeting
AGPT	Australian General Practice Training
AH&MRC	Aboriginal Health and Medical Research Council
AIDA	Australian Indigenous Doctors Association
AIHW	Australian Institute of Health and Welfare
ANU	Australian National University
ASGC–RA	Australian Standard Geographical Classification – Remoteness Area
ASTPRA	Advanced Specialist Training Posts in Rural Areas
ATO	Australian Taxation Office
BMP	Bonded Medical Place
CPD	Continuing Professional Development
CSP	Commonwealth Supported medical Place
CWA	Country Women's Association
DoH	Australian Government Department of Health
FTE	Full Time Equivalent
GP	General Practitioner
GPET	General Practice Education and Training
JFSS	John Flynn Scholarship Scheme
JMO	Junior Medical Officer
HECS	Higher Education Contribution Scheme
HETI	Health Education and Training Institute
IMET	Institute of Medical Education and Training
LIME	Leaders in Indigenous Medical Education
MRBS	Medical Rural Bonded Scholarship
NSW	New South Wales
NZ	New Zealand
PAC	Primary Allocation Centres
PGPPP	Prevocational GP Placement Program
PGY	Postgraduate year
PMC	Postgraduate Medical Council of NSW
RACGP	Royal Australian College of General Practitioners
RAMUS	Rural Australia Medical Undergraduate Scholarship
RCS	Rural Clinical Schools
RCTS	Rural Clinical Training and Support
RDN	NSW Rural Doctors Network
RGP	Rural Generalist Pathway (QLD)
RGTR	Rural Generalist Training Program (NSW)
RHC	Rural Health Club
RMFN	Rural Medical Family Network
RMO	Resident Medical Officer
RPR	Rural Preferential Recruitment
RTP	Regional Training Provider
RUSC	Rural Undergraduate Support and Coordination Program
STP	Specialist Training Program
UDRH	University Departments of Rural Health
UNE	The University of New England

UON	The University of Newcastle
UOW	University of Wollongong
USyd	The University of Sydney
UWS	The University of Western Sydney

Australian Standard Geographical Classification – Remoteness Area (ASGC–RA)

RA1 - Major Cities
RA2 - Inner Regional
RA3 - Outer Regional
RA4 - Remote
RA5 - Very Remote

Executive Summary

The NSW Ministry of Health has funded the NSW Rural Resident Medical Cadetship Program (Cadetship Program) for 25 years. Under this program financial support is provided for medical students during their final two or three years of undergraduate study. In return, students are contracted to complete two of their first three postgraduate years in an appropriate rural hospital. It is now the only program available in Australia to encourage junior doctors to work in non-metropolitan hospitals for an extended period prior to vocational training. The aims of the program are to increase:

- The number of junior doctors working in rural hospitals.
- Overall recruitment of medical practitioners into rural and remote communities.

This is the second longitudinal evaluation of the Cadetship Program which aims to track the career choice and practice location of a significant number of former cadets. The purpose of this evaluation is to ensure that the program remains relevant and attractive to medical students in the evolving medical education environment, and continues to meet its aims.

The Cadetship Program was introduced by the NSW Department of Health (now the NSW Ministry of Health) in 1988 and first offered in 1989. From 1993 the program has been administered by the NSW Rural Doctors Network. Between 1989 and 2014, 297 students have accepted a cadetship including six students who received a cadetship specifically for Indigenous medical students. Four cadets did not complete their medical degree. Of the remaining 293, 211 have completed their rural service, 23 are completing rural service and a further 27 are undergraduates. During this time 32 cadets (11%) have withdrawn from the program, 16 before commencing rural service and 14 during rural service. This proportion has remained consistent with the previous evaluation in 2004. Similarly consistent with ten years ago, slightly more cadets are female (57%), and 42% completed primary schooling in a non-metropolitan setting (including six cadets from remote areas). This compares with around 27% of the medical student population as a whole, indicating that medical students from rural areas are attracted to the Cadetship Program. Even so, the majority of cadets are of urban origin and 40% of cadets from a metropolitan background are currently practising in non-metropolitan areas. Therefore the Cadetship Program is having a significant effect in attracting medical students from metropolitan areas into the non-metropolitan health workforce.

As a result of the Cadetship Program 248 junior doctors have worked in rural hospitals in NSW (including those who subsequently withdrew from the cadetship and cadets now in their first or second year of rural service) and 211 of those have done so for two years. Responses to questions asked during exit interviews suggest that around half would not have done so without a cadetship.

Cadets are given special consideration for intern allocation through the Rural Preferential Recruitment (RPR) Pathway, but are not necessarily offered a position at the hospital of their first choice (though most cadets are). Since 1992, the majority of cadets (83%) have chosen to undertake rural service in their PGY1 and 2 years, rather than in their PGY2 and 3 years.

The majority of cadets in the 1989–2010 cohorts (249) are now well established on their chosen career path, either as trainees (particularly those in specialties other than general practice) or qualified practitioners. The career path of 187 of these past cadets who completed their rural service is known. Eighty two have chosen general practice and 94 have trained or are training in other specialties. The most popular specialties are anaesthetics/ICU (27), emergency medicine (16), physician (11) and surgery (10). Six are working as hospital non-specialists and five are no longer practising medicine. The proportion of cadets who have chosen general practice remains consistent with the previous evaluation, while the proportion of cadets who have commenced other specialty training programs has increased slightly.

Forty-eight per cent of past cadets in this cohort now work in RA 2–5 locations (41% in inner regional areas, 5% in outer regional and 1% in very remote). This is an increase of 5% since 2004. Specialists are more likely to work in urban areas than general practitioners. The benefit of having general practice training available in rural areas is clear. Seventy-one per cent of general practice registrars work in regional or rural areas compared with only 30% of specialist trainees. The location where past cadets grew up has had some impact on their career choice as well as on the location where they now work. However, gender and university enrolment had little impact on career choice or practice location. More than half the cadets have held other scholarships, such as John Flynn Scholarships or RDN Bush Bursary/CWA Scholarships, which have enabled them to experience living and learning in a rural community as an undergraduate before applying for a cadetship.

Applications for the cadetship have remained relatively stable with the same average number of applications received each year for the last ten years compared to the previous decade. Despite the introduction of other scholarships including the Rural Australian Medical Undergraduate Scholarship (RAMUS) and the Medical Rural Bonded Scholarship (MRBS) and increasing opportunities to obtain a postgraduate position in a rural hospital, the cadetship remains an attractive and sought after program, competitive enough to select at least 12 high quality applicants each year.

Cadets find the financial support as undergraduates a major advantage of the cadetship. Many also see the advantage of opportunities to attend education events and cadet weekends, meet and develop friendships with cadets (some of whom will become their colleagues) and establish connections with rural doctors and training providers. Some also see the advantage of securing a placement in the rural hospital network, which enables them to develop the experience and skills necessary to work in rural areas. Others seek to experience rural medicine and country life before committing to work there in the longer term.

Many cadets felt that spending their postgraduate training years in a rural hospital allowed them to experience a broader scope of clinical training obtained through general clinical terms and a diverse case load. They feel they were given a greater level of responsibility for clinical training, experiencing more 'hands on' training and the opportunity to do a wider range of procedures. Many of these cadets feel that being more independent and resourceful was a bonus, resulting in better clinical skills, autonomy and confidence. They feel they belonged in the healthcare team, and valued direct contact with specialists, in some cases receiving more personal, high quality teaching and the opportunities to develop networks with local specialists, general practitioners and others involved in rural health. Overall most cadets, including those

who went on to pursue specialty training, felt that undertaking their postgraduate training in a rural area had a positive influence on their careers. This sentiment is supported by the finding that 51% of cadets who entered the program before 2011 have become specialists or are on specialist training programs. This is an important outcome which contradicts the perception that postgraduate training in rural areas impedes one's chances of being accepted onto a specialty training program.

The majority of cadets felt that the advantages of holding a cadetship outweighed the disadvantages. However, there were some disadvantages identified by cadets and most of these centred on the terms of the cadetship rather than the period of rural service itself. One fifth of cadets felt disadvantaged by having to pay tax on their cadetship income, although this will not be an issue in future now that the tax free income threshold has increased significantly. The same proportion of cadets also felt they should be entitled to access the HECS Reimbursement Scheme during their rural service. Compared to the previous evaluation, fewer cadets now feel that the period of rural service limits their career options or that they feel restricted by the limited choice of hospitals (the eligible hospitals have increased from three to five since 2004).

Since the previous evaluation, RDN has responded to feedback from cadets who wanted greater interaction with other cadets and RDN at undergraduate level and greater professional and personal support during rural service. Cadets have the opportunity to attend two rural GP conferences as well as a Cadet Weekend each year. During these events cadets interact and establish networks with their peers, cadets at different stages of the program as well as rural practitioners. A significant focus is also placed on preparing cadets for rural service and providing information on vocational training options. Additional support is provided to rural service cadets by visiting them after they have relocated and linking them with networks to facilitate their professional development.

The nature of a program that requires students to make a significant commitment early on in their medical training, when many are still in their early twenties, will inevitably result in some cadets regretting their decision. A small proportion of cadets felt the fact they were bound to their commitment even after their personal circumstances had changed was a disadvantage of holding a cadetship. However, the proportion of cadets who have withdrawn from the program is small and has remained steady since the previous evaluation. Overall 85% of cadets felt the cadetship benefitted them and would recommend it to other medical students.

Cadets working as junior doctors represent an important proportion of the total junior doctor workforce in the rural hospital network and almost half have gone on to work in non-metropolitan areas in Australia. It is important that cadets feel supported during the time they spend as junior doctors and that they receive appropriate training for a rural career. RDN has responded to feedback from cadets to improve the program and increase the level of support provided.

As vertical integration of undergraduate and postgraduate training becomes more accessible, medical students with an interest in rural health have a pathway through which they can acquire the necessary experience and skills to become part of the rural medical workforce. It has been demonstrated that the Cadetship Program provides an important link in this pathway.

Recommendations

The NSW Rural Resident Medical Officer Cadetship Program has operated successfully for the last 25 years. In that time 211 cadets have worked in NSW rural hospitals for two years and the career path of 182 of those is known. Eighty-seven of those who accepted cadetships before 2011 now work in non-metropolitan (RA 2-5) areas of Australia. This represents 48% of the past cadets in that cohort whose chosen career path is known.

The following recommendations are put forward as a result of this evaluation of the Cadetship Program. They are in response to feedback from cadets, changes in medical education, and federal and state government initiatives to attract more doctors into non-metropolitan areas of Australia. The recommendations are listed with a suggested action, including the agencies responsible for implementation and any associated costs.

Recommendation 1
The NSW Rural Resident Medical Officer Cadetship Program continues to be funded by the NSW Ministry of Health and administered by RDN.

Action: The NSW Ministry of Health continues to fund RDN to administer the Cadetship Program.

Recommendation 2
In 2010, as an initiative to encourage more Indigenous medical students to choose rural careers, the NSW Ministry of Health and RDN agreed that up to two of the 12 Cadetships offered annually would be reserved for Indigenous medical students. This has been very successful, with six Indigenous cadets currently engaged in the program. It is recommended that a quota for Indigenous Cadetships is maintained with each intake (Section 2.1).

Action: RDN continues to designate up to two Cadetships annually for Indigenous medical students.

Recommendation 3
Since the previous evaluation in 2004, an additional five medical schools have been established in NSW and ACT. On the basis of the significant increase in medical students in NSW/ACT, RDN recommends that the number of cadetships available per year increases from 12 to 15 from the 2016 intake, and the funds available from the NSW Ministry of Health to RDN be increased accordingly (Section 2.3).

Action: The NSW Ministry of Health to fund RDN to identify, administer and support three additional cadetships each year, costing an additional $80,000 in the first year and $100,000 per year thereafter.

Recommendation 4
RDN has been administering the Cadetship Program since 1993. During this time RDN has worked to streamline administration and make improvements based on feedback from cadets and other stakeholders. However, a more robust and comprehensive database is required to further improve the process of collecting and analysing data. It is recommended that RDN implement and maintain one comprehensive database for all scholarships administered by RDN. The database would include all applicants as well as

successful scholarship holders and would be linked to the RDN general practice workforce database to track past scholarship holders going into rural practice and streamline data collection (Section 6.3.1).

Action: RDN to set up and maintain a central scholarship database linked to the General Practice Workforce Database.

Recommendation 5
RDN has developed a framework for longitudinal evaluation, which involves contacting cadets twice within ten years of completing rural service. Cadets will be informed of the longitudinal evaluation when they accept the cadetship and reminded at their exit interview. It is recommended a clause be included in the contract signed by cadets regarding longitudinal follow-up, or that they be asked to sign consent forms at the time of exit interview (Section 6.3.1).

Action: RDN and the NSW Ministry of Health to revise the exiting contract to include compliance with longitudinal evaluation surveys or for RDN to go through the consent process with cadets at exit interviews.

Recommendation 6
During end of year visits to rural service cadets, RDN discuss with PGY1 cadets their progress. These conversations are informal in nature and do not utilise a pre-determined set of questions. It is recommended RDN formally interviews all cadets at this stage using a standardised questionnaire (Section 6.4).

Action: RDN to develop a questionnaire which is used to interview all cadets at the end of their first year of rural service.

Recommendation 7
In response to feedback from cadets requesting more peer support during their rural service, a formal mentorship component of the cadetship was established in 2014. Cadets beginning their rural service were matched with a more senior cadet in the same hospital in a mentor capacity. Feedback so far from cadets indicates this additional support has been useful and it is recommended RDN continue to match cadets beginning their rural service with mentors (Section 6.4).

Action: RDN continues to link cadets beginning their rural service with a specific mentor, ideally a more senior cadet at the same hospital.

Recommendation 8
Although the overwhelming majority of cadets felt the period of rural service was an advantage in their career progression, a small number expressed concerns around access to training programs other than general practice. It is recommended that rural service cadets are further supported to achieve their career goals (Section 6.4).

Action: RDN to investigate ways to provide additional support to rural service cadets, particularly those in PGY2, with their career decisions and assist them to establish connections with relevant people and organisations.

Recommendation 9
To encourage vertical integration of medical education, RDN supports additional regional base hospitals applying for home hospital accreditation in locations where there are Rural Clinical Schools. This would enable students from Rural Clinical Schools to remain in the same location and continue to acquire the skills necessary for rural medicine. It would also provide more choices for cadets when choosing sites for their rural service (Section 6.5).

Action: RDN to support regional base hospitals applying for accreditation, particularly where there are Rural Clinical Schools.

Recommendation 10
Four former cadets are current trainees of the NSW Rural Generalist Training Program established in 2013. It is recommended that RDN continue to promote federal and state training initiatives such as the NSW Rural Generalist Training Program which create clear pathways for rural cadets.

Action: RDN continues to support and promote the NSW Rural Generalist Program to cadets.

1. Introduction

The NSW Rural Resident Medical Officer Cadetship Program (the Cadetship Program) was established in 1988 by the NSW Department of Health, as a strategy to increase the numbers of junior doctors in rural hospitals. In 1993 the NSW Rural Doctors Network (then called the NSW Rural Doctors Resource Network) assumed responsibility for administering the program. The Cadetship offers bonded scholarships, which provide financial support for medical students during their final two years of undergraduate study and, in return, cadets are contracted to complete two of their first three postgraduate years in a rural NSW hospital.

The aims of the Cadetship Program are to increase:

- The numbers of postgraduate doctors working in rural NSW hospitals and;
- The overall recruitment of medical practitioners into rural and remote communities on the basis that positive exposure to rural medicine increases the likelihood of choosing to practice in a rural location.

In 2004 the first longitudinal evaluation was undertaken to track the career choices of cadets who had completed their rural service bond (1989–1998 intakes). The evaluation was also the first to document many of the significant changes to medical education in Australia since the establishment of the Cadetship Program. The current study aims to continue the longitudinal evaluation of the program by tracking the career choices of the cadets included in the 2004 review, as well as those of subsequent cohorts of cadets who have entered the program since 1999. Additionally, the evaluation will reflect on the major changes in rural medical education and training that have occurred in the last 10 years and how they have impacted the Cadetship Program.

1.1 Background

The rural medical landscape that contributed to the development of the Cadetship Program, including the Rural Doctors Dispute and the subsequent Rural Doctors' Dispute Settlement Package[1] is documented in the 2004 evaluation of the Cadetship Program.[2] The dispute stemmed from the Australian Government's introduction of a series of expenditure reduction measures in 1987 leading to a clash between rural GPs and the state government over payments for after hours hospital services. Importantly, other issues encompassed in the dispute included the inadequate availability of postgraduate training and preparation for rural general practice.[3]

Since the last evaluation of the Cadetship Program in 2004 and in the face of ongoing medical workforce shortages, there have been a number of developments aimed at improving recruitment and retention in rural practice. These include the evaluation of and changes to undergraduate admission and rural exposure policies, the establishment of pathways designed to link undergraduate rural training to postgraduate positions in

[1] McEwin, K. **General Practice Workforce Strategy for Rural and Remote New South Wales**. Sydney: Rural Doctors Resource Network, 1995.
[2] Dunbabin, J. **Junior Doctors Working in Rural New South Wales: An evaluation of the Rural Resident Medical Officer Cadetship Program**. Newcastle: NSW Rural Doctors Network, 2004 .
[3] Shehadie, N. **Report to the Committee of Enquiry into services provided by the General Medical Practitioners to Country Public Hospitals.** 1987.

rural areas and increased opportunities to undertake general practice and other vocational training programs in rural areas.

It is widely accepted that rural origin and repeated or sustained rural exposure during training are strongly associated with working in rural practice.[4,5,6] Based on this collective evidence a number of initiatives have been introduced in Australia including quarantined places and scholarships in medical schools for rural students and mandatory short-term rural placements for all Australian Commonwealth-supported students.[7] The establishment and goals of the Rural Undergraduate Support and Coordination Program (RUSC) along with the University Departments of Rural Health (UDRH) and Rural Clinical Schools (RCS) are documented in the 2004 Cadetship evaluation.[2] Over the last ten years the RUSC and RCS programs have been merged to create the Rural Clinical Training and Support (RCTS) Program. The RCTS Program maintains the goals of admitting more rural origin students, offering all students positive rural experiences and increasing Aboriginal and Torres Strait Islander student admissions.[7]

Early data have demonstrated that RCS exposure increased students' intentions to work rurally,[8] and that RCS graduates are more likely than their peers to work rurally as prevocational doctors.[9] More than a decade on from the establishment of RCSs, research is beginning to report positive longer term outcomes as well.[10,11] Significantly, a study of graduates of the RCS of Western Australia found that not only was participation in the RCS strongly associated with greater likelihood of working rurally, but that urban origin RCS graduates were nearly four times more likely to be working rurally than those not exposed to the RCS.[12]

In NSW efforts have been made to foster vertical integration of rural medical training by linking undergraduate training to postgraduate positions in rural areas through the establishment of the Rural Preferential Recruitment (RPR) program.[13] The pathway, which was developed by The Health Education and Training Institute (HETI) in 2007, is a merit based process that facilitates recruitment of rural cadets and other medical graduates interested in working in a rural setting, to prevocational training positions in rural hospitals. All rural hospitals accredited to accept interns as a three or five term home hospital can participate in the RPR and advertise positions directly through NSW Ministry of Health.

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[4] Dunbabin, J and Levitt, L. **Rural Origin and rural medical exposure: their impact on the rural and remote medical workforce in Australia**. Rural and Remote Health 3 (online) 2003.
[5] Laven, G and Wilkinson D. **Rural doctors and rural backgrounds: how strong is the evidence? A systematic review**. Australian Journal of Rural Health 2003; 11:277-284.
[6] Henry, JA, Edwards, BJ and Crotty, B. **Why do medical graduates choose rural careers?** Rural Remote Health 2009; 9:1083.
[7] The Australian Government Department of Health and Ageing. **Rural Clinical Training and Support (RCTS) 2011-2014 - Operational Framework.** Page available at: http://www.health.gov.au/internet/main/publishing.nsf/Content/work-st-rcts-2011-14 (accessed 3/4/2014)
[8] Eley, DS and Baker, PG. **Will Australian rural clinical schools be an effective workforce strategy? Early indications of their positive effect on intern choice and rural career interest.** Medical Journal of Australia 2007; 187: 166-167.
[9] McDonnel Smedts, A and Lowe, MP. **Efficiency of clinical training at the Northern Territory Clinical School: placement length and rate of return for internship.** Medical Journal of Australia 2008; 189:166-168.
[10] Worley, P, Martin, A, Prideaux, D, Woodman, R, Worley, E and Lowe, M. **Vocational career paths of graduate entry medical students at Flinders University: a comparison of rural, remote and tertiary tracks.** Medical Journal of Australia 2008; 188:177 – 178.
[11] Eley, DS, Synnott R, Baker, PG and Chater, AB. **A decade of Australian Rural Clinical School Graduates – where are they and why?** Rural Remote Health 2012; 12:1937.
[12] Playford, DE, Evans, SF, Atkinson, DN, Auret, KA and Riley, GJ. **Impact of the Rural Clinical School of Western Australia on work location of medical graduates.** Medical Journal of Australia 2014; 200:104 – 107.
[13] Health, Education and Training Institute (Medical Portfolio). **Rural Preferential Recruitment.** Health Education and Training Institute Procedure 2013; Document Number: 12/3456. Accessed: 2/4/14 https://www.heti.nsw.gov.au/Global/HETI-Resources/internships/rural-preferential-recruitment-procedure.pdf

This change of allocation policy allowed rural hospitals to recruit graduates directly rather than having the positions filled by prevocational trainees rotating out from metropolitan hospitals. While no formal evaluations have been undertaken of the RPR program, the proportion of intern positions in rural hospitals has increased in the years since the program was introduced. In 2004, 27 out of 509 intern placements were in rural hospitals (5.3%) compared to 131 out of 959 in 2014 (13.6%).[2,14] While the RPR may have played a role in facilitating this increase in rural intern places, a bigger contributing factor would have been the increase in the number of rural hospitals accredited to offer internships. In 2004 Orange, Wagga Wagga and Tamworth Base Hospitals were the only accredited rural home hospitals or Primary Allocation Centres (PAC) available, compared to 12 in 2014.[2,14]

The last decade has seen a significant increase in opportunities for pre-vocational doctors to experience general practice rotations in Australia, and the value of such placements has been widely recognised.[15,16,17] The Prevocational General Practice Placements Program (PGPPP), established by the Australian Government in 2003, allows junior doctors to experience working outside the hospital system in general practice or community settings. This experience has shown to be beneficial for prevocational doctors regardless of whether they become general or specialist practitioners.[17] The PGPPP is also an important component of the rural training pipeline. In recent years the Australian Government aligned the targets for the distribution of PGPPP placements with that of the Australian General Practice Training (AGPT) program; i.e. a minimum of 50% of all placements to be delivered in RA 2–5 locations.[18] In 2012 this target was exceeded with 66% of PGPPP placements occurring outside of major cities.[18]

Several important developments have also occurred regarding vocational training in rural areas in recent years. In 2007 the Australian College of Rural and Remote Medicine (ACRRM) was granted accreditation to provide a pathway to the specialty of general practice, giving people wishing to become rural GPs a choice of colleges.[19] GP registrars can now opt to pursue a Fellowship of ACRRM or a Fellowship of the Royal Australian College of General Practitioners (RACGP) (with an optional extension to gain Fellowship in Advanced Rural General Practice) or both.[14]

An increased effort has been made to align GP registrar training places with areas experiencing medical workforce shortages. In 2012, General Practice Education and Training (GPET) reached their target of at least 50% of all training to be undertaken in RA2–5 locations.[18]

Regional Training Providers (RTPs) are also required to play their part in supporting the rural pipeline, and have been encouraged from the outset to develop registrar training

[14] Health, Education and Training Institute. **NSW Postgraduate Year 1 Position Capacity in 2014 & 2015 by Prevocational Training Network** Accessed online: http://www.heti.nsw.gov.au/Global/HETI-Resources/internships/internship-capacity-by-network-for-2015-clinical-year.pdf

[15] Martin, A, Laurence, C, Black, L, and Mugford, B. **General Practice placements for pre-registration junior doctors: adding value to intern education and training.** Medical Journal of Australia 2007; 186: 346-349

[16] Vickery, A and Tarala, R. **Barriers to prevocational placement programs in rural general practice.** Medical Journal of Australia 2003; 179: 19-21.

[17] Nichols, A, Worley, PS, Toms, LM and Johnston-Smith, PR. **Change of place, change of pace, change of status: rural community training for junior doctors, does it influence choices of training and career?** Rural and Remote Health 4 (online), 2004; 259.

[18] General Practice Education and Training. **Annual Report to June 30 2013.**

[19] Trumble, SC. **The evolution of general practice training in Australia.** Medical Journal of Australia 2011; 194(11): S59 – S62.

capacity in areas of need.[20,21] As with undergraduate admission policies that ensure at least 25% of students come from rural backgrounds,[7] changes have been made to the selection process for GP training with rurally based RTPs in Victoria and NSW able to select partially on the basis of 'connection to rural'.[15]

Another major development in rural medical training in recent years has been the establishment of supported career pathways aimed at producing Rural Generalists. In 2007 the Rural Generalist Pathway (RGP) commenced in Queensland as a strategy to address rural workforce shortages specifically in public hospitals.[22] This pathway arose out of a number of significant events, in particular a forum held in the rural Queensland town of Roma in 2005 which culminated in the establishment of the Roma Agreement.[23] In this Agreement, Queensland Health, colleges, educational providers, rural doctors and other stakeholders agreed to 'develop and sustain an integrated service and training program to form a career pathway supplying the Rural Generalist workforce that the bush needs'.[19] A review of Queensland Health's RGP found the program is of high quality, meets the needs of the community, represents value for money but is yet to realise its potential to support workforce planning.[24]

Similarly, the NSW Rural Generalist Training Program (RGTP) was established in 2013 as a supported pathway to a career as a General Practitioner providing primary care in a rural community as well as advanced procedural services through the local health service.[25] While the concept and outcomes of the programs for both states are the same, there are differences within the operation of the programs. In NSW applicants must have successfully completed their internship before they can enter the program in PGY2, PGY3 or later. NSW trainees undertake one year of advanced skills training in either Anaesthetics, Advanced Obstetrics or Obstetrics/Emergency Medicine, followed by two years in general practice with credentials to provide procedural services under appropriate supervision. Under the Queensland model, applicants can enter the program in their final year of university training. They also have a broader range of advanced skill options including surgery, Indigenous health, internal medicine, paediatrics and mental health, in addition to the three specialties available in NSW. In both states trainees are offered a mentor to provide pastoral advice and support, as well as access to specially designed workshops and education sessions.

Compared to general practice, there are fewer vocational training opportunities in rural and regional areas for trainees of other specialty programs. This is important considering the discrepancy between the numbers of practitioners in metropolitan compared to non-metropolitan areas is even more marked among the specialist workforce than the general.[26] In 2011 the Australian Institute of Health and Welfare (AIHW) reported that

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[20] Campbell, DG, Greacen, JH, Giddings, PH and Skinner, LP. **Regionalisation of general practice training – are we meeting the needs of rural Australia?** Medical Journal of Australia 2011; 194(11): S71 – S74.
[21] Willcock, SM and Coote, W. **The Australian General Practice Training Program – reflections on the past decade.** Medical Journal of Australia 2011; 194(11): S55 – S58.
[22] Sen Gupta, TK, Manahan, DL, Lennox, DR and Taylor, NL. **The Queensland Health Rural Generalist Pathway: providing a medical workforce for the bush.** Rural and Remote Health 2013; 13(2319)
[23] Sen Gupta, T, Manahan, D, Taylor, N and Lennox, D. **The Roma Agreement: changing the face of rural generalist training in Queensland.** 12th National Rural Health Conference 2013. Accessed online: 19/5/14
[24] Sen Gupta, T, Lennox, D, Taylor, N, Van Erp, A and Stewart R. **Medical rural generalist training in Queensland, Australia: A five-year evaluation.** 12th WONCA World Rural Health Conference/IV South Brazilian Congress of Family and Community Medicine 2014. Accessed online: 19/5/14
[25] Health Education and Training Institute. **Rural Generalist Training Program. http://www.heti.nsw.gov.au/rgtp** Accessed online: 19/5/14.
[26] Australian Medical Association **AMA (NSW) Regional Specialist Workforce Forum Wagga Wagga, 3 December 2013 Background Paper.** http://amansw.com.au/news/articles/regional-specialist-workforce-forum/ Accessed online: 20/5/14.

in major cities across Australia there were 234 FTE specialists per 100,000 compared to 81 per 100,000 in outer regional areas.[27] However, there has been some improvement with the establishment of the Specialist Training Program (STP) in 2009.[28] The STP consolidated several existing programs including the Advanced Specialist Training Posts in Rural Areas (ASTPRA) into a single program. The program is delivered in partnership between the federal, state and territory governments and the medical specialist colleges and seeks to extend vocational training into settings outside traditional metropolitan teaching hospitals. One of the main aims of the program is to supplement the available specialist workforce in non-metropolitan areas, resulting in increased number and better distribution of specialist services. In 2014 the total number of training places under the STP will have increased to 900.[28]

The NSW Rural Resident Medical Officer Cadetship Program is now the only incentive scheme of its kind in Australia designed to encourage junior doctors to work in non-metropolitan areas. The Queensland Health Rural Scholarship Scheme offered generous financial incentives to undergraduates who then committed to working in a rural area for a period equalling the number of years of financial assistance.[29] After a recent review of the scheme, funding for future scholarships has ceased and medical undergraduates are instead encouraged to pursue opportunities through the Queensland Rural Generalist Pathway program.[25]

Similarly, a South Australian scheme established in 1995 offered undergraduates up to $15,000 over three years with a rural service agreement equal to the period of funding. However, in recent years Country Health SA, the organisation responsible for administering the scholarships, has prioritised other health disciplines over medicine. Providing scholarships for disciplines such as nursing and midwifery, speech pathology, and physiotherapy has been deemed more effective given the long lead time for completion of medical studies (e.g. 12 years), the highly mobile nature of the medical workforce, and the relatively low disincentive of having to repay a scholarship when compared to earning capacity.[30]

Two systematic reviews have been published evaluating the effectiveness of incentive programs worldwide as a means of addressing health worker shortages.[31,32] The first of these reviews by Sempowski found that return to service programs were successful in achieving short-term recruitment, but less effective in encouraging long-term retention.[30] Sempowski's review included ten publications, most of which were from the United States of America (USA), and focused on programs targeting medical practitioners. Bärnighausen and Bloom's review included 43 studies, 34 of which were from the USA, and encompassed incentive schemes for all types of health workers. In contrast, the second review found that participants of incentive programs were actually more likely than non-participants to work in underserved areas long-term, although they are less likely to remain in the same location as the original placement.[31]

[27] Australian Institute of Health and Welfare. **Medical workforce 2011: National health workforce series no. 3.** Cat. No. HWL49, 2013
[28] Australian Government Department of Health and Ageing **Specialist Training Program (STP) Operational Framework.** Created June 2012, Updated January 2013. http://www.health.gov.au/internet/main/publishing.nsf/Content/work-pubs-spec-fram Accessed online: 20/5/14
[29] Queensland Health Scholarships. http://www.health.qld.gov.au/qhs/ Accessed online: 20/5/14.
[30] Personal communications; Kathryn Rimmer, Country Health SA LHN Scholarships
[31] Sempowski, IP. **Effectiveness of financial incentives in exchange for rural and underserviced area return-of-service commitments: a systematic review of the literature** Canadian Journal of Rural Medicine 2004; 9: 82-88
[32] Bärnighausen, T and Bloom, D.E. **Financial incentives for return of service in underserved areas: a systematic review** BMC Health Services Research 2009; 9:86

Both reviews found multi-dimensional programs that prepare participants and their families before the start of the obligated service, and attempt to match participants to an area of their preference have higher levels of participant satisfaction and overall success. Additionally, facilitating career guidance, mentoring, monitoring of problems and ongoing support during the period of service can also positively influence retention. Both of these reviews highlight a lack of evidence within the literature that the observed positive recruitment and retention rates among program participants was actually due to their involvement in the program rather than the result of other pre-disposing factors. Efforts should be made to control for biases inherent in programs where participants would have likely elected to work in an underserved/rural area even without the financial incentive.[31]

The previous evaluation of the Cadetship found that 43% of former recipients that entered the program before 1999 and completed their return to service obligation were working in a regional or rural area in 2004. The current evaluation represents the next stage of a longitudinal study. It seeks to follow up on the cohort of cadets who were surveyed previously and are presumably well into established careers, as well as the cadets entering the program from 1999 to 2010 whose career paths will be tracked for the first time. It is clear that programs such as the Cadetship play an important role in proving a supportive pathway from undergraduate through to postgraduate and vocational training for those interested in rural medicine. The evaluation aims to provide evidence that the Cadetship Program is meeting its aims in increasing the numbers of postgraduate doctors working in rural NSW hospitals and the overall recruitment of medical practitioners into rural and remote communities.

2. The NSW Rural Resident Medical Officer Cadetship Program

The NSW Rural Doctors Network (RDN) administers the Cadetship Program which is funded by the NSW Ministry of Health and is now in its 26th year of operation. RDN receives around $550,000 annually to administer the program which includes recruiting 12 new cadets each year. As part of its administering role, RDN is also responsible for:

- Integrating cadetships with other rural health initiatives, including undergraduate activities such as Rural Health Clubs (RHC) and other scholarships, and postgraduate activities including pathways to vocational training.
- Introducing cadets to existing networks and educating them about rural opportunities.
- Making RDN resources available to rural cadets as well as unsuccessful cadetship applicants where appropriate.
- Increasing the number of medical undergraduates choosing a rural career.

2.1 The NSW Rural Resident Medical Officer Cadetship for Indigenous medical students

In 2010, as an initiative to encourage more Indigenous medical students to choose rural careers, the NSW Ministry of Health and RDN agreed that up to two of the 12 cadetships offered annually would be reserved for Indigenous medical students. The uptake of the cadetships by Indigenous students was impeded in the first year due to tax implications for many of the eligible students who were already receiving financial support from the Australian Government.

After consultation with stakeholders including the Aboriginal Health and Medical Research Council (AH&MRC), Australian Indigenous Doctors Association (AIDA) and NSW medical schools, the structure of the program was altered to alleviate this issue. An additional pathway was introduced to allow Indigenous medical students to enter the program a year earlier and receive the payments in instalments staggered over three years instead of two.

The Indigenous Cadetship has been very successful, with six Indigenous cadets currently engaged in the program. It is recommended that a quota for Indigenous Cadetships is maintained with each intake (Recommendation 2).

2.2 Promotion and administration

The majority of students become aware of the cadetships through RDN and RHC promotions (including visits during lectures, posters and information evenings). The other significant way students become aware of the cadetship is through conversations with other students, friends and former cadets. Current cadets are expected to actively promote the program to their peers wherever possible, including assisting RDN with university presentations. Details of the cadetship are also included on the RDN website scholarship page.[33]

[33] NSW Rural Doctors Network, Scholarships Page available at www.nswrdn.com.au (accessed online 8/8/14).

Communicating to students via university administrators and student support officers has also proved to be a valuable method of promoting the cadetships. This has been a particularly useful avenue to raise awareness of the program among eligible Indigenous students. Due to the relatively small numbers, university administrators or Indigenous support officers can often easily contact individual students and alert them to the opportunity. Additionally, Indigenous students are targeted by communications through AIDA, the Leaders in Indigenous Medical Education Network (LIME) and publications such as the *Koori Mail* and *Indigenous Times*. Separate posters and application forms are also produced annually to promote the program to Indigenous students.

The administrative timetable for the cadetships is outlined in Table 2.1.

Table 2.1 **Timetable for administering the Cadetship Program**

Timing	Activity	Detail
January	Scholarship payments to cadets	Confirmation is sought that student cadets have successfully progressed to the next year of their degree and scholarship payments are processed for the period January–June.
	Relocation payments to cadets	Payments are processed for cadets relocating to undertake their rural service.
February/ March	Publicity initiated to attract applicants for the following year	Posters and application forms are distributed to medical schools and placed on the RDN website.
	RDN Rural GP Summer Refresher Conference	Current cadets are invited and subsidised to attend the conference in Coffs Harbour.
March/ April	Promotion to NSW medical schools	RDN staff present information on the Cadetship to eligible students and advertising is placed in student publications and on social media sites through RHCs.
	Cadet Weekend	All current cadets are invited and encouraged to attend the Cadet Weekend held at one of the locations where they can undertake their rural service.
May/June	Graduating cadets apply for intern positions through the Rural Preferential Recruitment (RPR) program	RDN assists final year cadets in making their applications for intern positions through RPR for the following year. This involves facilitating communication with HETI and JMO managers regarding cadet hospital preferences.
	Visits to rural service cadets	RDN visits cadets at each of the rural service locations at least once a year. Local GPs, former cadets and RDN Board members are invited to attend a dinner with the cadets. The visits are an opportunity to check in with cadets and facilitate integration with local networks.
July	Scholarship payments to cadets	Confirmation is sought that student cadets have passed their exams and scholarship payments are processed for the period July–December.
August/ September	Applications close and cadets are selected for the following year	Applicants are culled against eligibility and selection criteria. Eligible applicants are interviewed by a panel including RDN staff and a senior or former cadet. Successful applicants receive a letter of offer and contract to sign and return to RDN.
October – January	Exit interviews	RDN holds exit interviews with cadets who are completing their two years of rural service.
November	RDN Rural GP Conference	Current cadets are invited and subsidised to attend the RDN AGM and Rural GP Conference. A designated cadet meeting is held during the conference to discuss relevant aspects of rural education and training, such as training pathways and support networks for partners and families.

2.3 Eligibility criteria

Applicants must be Australian citizens or permanent residents and enrolled as full time students in their third last year of a medical degree at a NSW university. Students from medical schools interstate or in NZ are also eligible to apply, provided they have completed Year 12 in NSW. This criterion became problematic in 2004 with the establishment of a medical school at the Australian National University (ANU). The school was set up with an emphasis on rural health and all medical students undertake at least eight weeks of rural clinical experience in south-east NSW including the towns of Goulburn, Bega and Moruya. Additionally, each year around 24 third-year students undertake a year-long rural clinical placement as part of the 'Rural Stream'.[34] Despite this significant exposure to rural practice in NSW, and the fact that some students also hold rural Bonded Medical Places (BMP), they are ineligible to apply for the Cadetship if they did not complete their final year of high school in NSW.

In the previous Cadetship evaluation, it was recommended that both medical students who are residents of the ACT, but not studying in NSW, and all medical students attending the ANU Medical School be eligible to apply for a cadetship using the same criteria as is applied to NSW medical schools. This recommendation was not adopted and the situation subsequently became more complicated with the introduction of the NSW Ministry of Health intern allocation priority rankings. The increasing scarcity of positions led the state government to prioritise the allocation of domestic students graduating from universities in NSW first (Priority Category 1) followed by domestic students graduating from universities interstate, but who completed Year 12 in NSW (Priority Category 2).[35] In line with this policy, RDN has restricted eligibility for the cadetship to medical students in these categories.

Cadets are eligible for a range of other scholarships in conjunction with their cadetship. However, they cannot hold a Rural Australia Medical Undergraduate Scholarship (RAMUS) or a Medical Rural Bonded Scholarship (MRBS) concurrently with a cadetship.

Since the previous evaluation in 2004, an additional five medical schools have been established in NSW and ACT. On the basis of the significant increase in medical students in NSW/ACT, RDN recommends that the number of cadetships available per year increases from 12 to 15 from the 2016 intake, and the funds available from the NSW Ministry of Health to RDN be increased accordingly (Recommendation 3).

2.4 Selection criteria

Applications are culled according to the eligibility criteria (Section 2.3) and selection criteria implicit in the application form. Final selections are made on the basis of an interview. Although the questions asked on the application form and at interview have changed over time, applicants have been consistently asked why they applied for a cadetship and what experience they have of rural communities. In recent years applicants have been expected to demonstrate a strong interest in rural health and understand the issues affecting rural communities. It is desirable that they are active members of an RHC, participate in community service or community-based activities and have some

[34] Australian National University, Medical School Rural Stream. Page available www.anu.edu.au (accessed 8th August 2014).
[35] Health Education and Training Institute (HETI), NSW Health Priority List for 2015 Intern Recruitment. Page available http://www.heti.nsw.gov.au/programs/m/nsw-health-priority-list-for-2015-intern-recruitment/ (accessed 12/9/14).

experience living in or visiting rural areas or a strong interest in rural life. It is not a requirement that they have grown up in a rural location.

2.5 Contractual arrangements and letter of offer

2.5.1 Rural service

Cadets are contracted to spend two out of their first three postgraduate years in an accredited hospital west of the Great Dividing Range (i.e. a non-coastal location). In 2004 there were three eligible hospitals: Orange, Tamworth and Wagga Wagga Base Hospitals. Since then, both Dubbo and Albury hospitals have gained accreditation as home hospitals for interns and the contract was altered to reflect this. While cadets have the option of delaying rural service until PGY2, it is becoming increasingly difficult to do this with many hospitals now requiring interns to sign two-year contracts. This means cadets wanting to commence their rural service in PGY2 would have to rely on a position becoming available through another JMO leaving.

2.5.2 General practice term

The contract specifies that up to six months of the rural service period may be spent undertaking supervised General Practice training. Cadets are also encouraged to undertake a PGPPP term during their rural service if the opportunity is available. The opportunities for cadets to complete a GP term during their rural service may be limited in future after the Australian Government Department of Health announced funding for PGPPP will cease in 2014. It is expected that some PGPPP posts will continue beyond 2014 utilising state government funding; however, the number of places available will be significantly reduced.

2.5.3 Payments

Cadetship recipients receive up to $15,000 for each of their final two years of undergraduate study and are offered reimbursement for their relocation expenses when commencing rural service (up to $1,500). They are also subsidised to attend two RDN conferences per year while undergraduates, and once they begin their rural service they receive a subsidy of up to $500 for each of the conferences. Cadetship payments to students are considered taxable income by the Australian Taxation Office (ATO) and must be declared. As discussed in Section 2.1, applicants for the two Indigenous Cadetships can elect to receive the payments over three years to lessen the effects of taxation on existing financial support. A recommendation from the 2004 evaluation was that RDN again appeal to the ATO to change their ruling that monies received through the Cadetship is considered taxable income. This action was undertaken by RDN but was unsuccessful.

Cadets choosing to withdraw from the cadetship are required under the terms of the contract to reimburse RDN all monies paid. Where cadets have completed some rural service prior to withdrawing, money is paid back on a pro rata basis, according to the contractual arrangements in place between RDN and the cadet.

2.6 Rural service

Following graduation cadets are contracted to complete two of their first three postgraduate years in the rural hospital network. Cadets make an application for an intern position to the Health Education and Training Institute (HETI) which was formerly known as the Institute of Medical Education and Training (IMET) and before that as the Postgraduate Medical Council of NSW (PMC). Up until 2007, cadets applied

for allocation for a PGY1 position and were given special consideration to be allocated to the rural hospital network, although cadets were not guaranteed their preference of hospital. After PGY1 they applied directly to the hospital for a position as a PGY2 or Resident Medical Officer (RMO). An external review of the recruitment and allocation processes led to the commencement of the Rural Preferential Recruitment (RPR) program in 2008. Since then, cadets have been required to apply through the RPR program directly to the hospital(s) of their preference. While cadets are not guaranteed to be offered a position through RPR, RDN helps to prepare and guide them through the application and interview process and ensure the hospitals can identify cadets among their applicants. RDN also works closely with HETI to ensure cadets receive a rural placement.

As discussed in Section 2.5.1, cadets still have the choice of deferring their rural service until PGY2, although they are actively advised against doing this due to the increasing competitive nature of positions and the move towards two-year contracts.

2.7 Networking

RDN is well placed to introduce cadets to existing rural networks and inform them about rural opportunities, both at an undergraduate and postgraduate level. This is one of the ways in which RDN offers support to cadets and fulfils the NSW Ministry of Health requirement to integrate cadetships with other rural health initiatives.

All student and rural service cadets are invited to attend two RDN rural GP conferences each year. These events are significant highlights of the Cadetship Program as they provide an invaluable opportunity for cadets to meet rural doctors from around the state and hear about their professional and personal experiences of rural life. It's also an opportunity for cadets to become familiar with state-wide rural health professional networks, and learn about various rural training pathways. RDN covers all costs for student cadets including travel to and from, and meals and accommodation during the conferences. Rural service cadets are also invited to attend the conferences and are offered a $500 Continuing Professional Development (CPD) voucher to assist with their travel and accommodation expenses. Cadets are encouraged to bring their families along to the conferences (at their own expense) to participate in the partners and children programs offered by the Rural Medical Family Network (RMFN). The numbers of cadets taking up the opportunity to attend the conferences has increased significantly in recent years with around 18 to 22 student cadets regularly in attendance. The numbers of rural service cadets are lower as it is more difficult for them to secure the necessary time off work.

Another opportunity cadets have to network with each other and to engage with former cadets and established rural practitioners is the annual Cadet Weekend. The weekend was established in response to feedback from cadets, which formed a recommendation from the 2004 Cadetship evaluation. The recommendation was to bring all student cadets together once a year for social contact and to hear from a guest speaker, preferably a former cadet who could share their experiences of rural service. The weekends, which have been held annually since 2006 in one of the regions where cadets can undertake their rural service, have been very successful. The two-day program usually involves a panel of local practitioners (preferably including a former cadet) at various career stages within different specialties talking about the rewarding personal and professional opportunities which exist in that particular area. The cadets also hear from current rural service cadets from each of the five eligible hospitals as well as a representative from

HETI regarding the intern application process. Additionally the cadets have an opportunity to tour the hospital and town, participate in clinical upskilling sessions and engage in social activities. RDN works with key local stakeholders including the Medicare Local, Local Health District, Rural Clinical School, Aboriginal Community Controlled Health Services and Council to showcase the town professionally and socially.

A further way that RDN supports and encourages networking opportunities for rural service cadets is through annual/biannual visits to each of the regional areas where cadets are located. These visits allow RDN staff to discuss with cadets training opportunities and general issues as well as facilitating networking with Regional Training Providers and local health organisations. The visits are also a good opportunity to meet with JMO managers to maintain awareness of the program within the hospitals.

2.8 Data collection and evaluation

Through administering the Cadetship Program, RDN collects information from cadets that contributes to an ongoing evaluation, both of the administration of the program and its outcomes. RDN presents formal written reports on the operation of the Cadetship Program to both the NSW Ministry of Health and the RDN Board each year.

3. Evaluation Method

This is the first evaluation of the Cadetship Program since 2004 and will provide information about the career paths of cadets post rural service.

The objectives of the evaluation are to:

- Document operation of the Cadetship Program.
- Document the satisfaction of cadets (past and present) with the program.
- Quantify the success of the Cadetship Program in meeting its primary objectives of increasing the number of junior doctors working in appropriate rural hospitals and increasing recruitment of medical practitioners into rural and remote communities.
- Explore changes necessary to keep the program relevant in the rapidly changing environment of medical education and training.
- Review administrative efficiency and the integrity of data collection.

The outcomes from the evaluation will enable RDN and the NSW Ministry of Health to identify any changes that are necessary for the Cadetship Program to retain its appeal to medical students and to continue to meet its primary objectives.

3.1 Sources of information

The major source of information used was data collected from three surveys sent to the three distinct cohorts of cadets. The main survey was sent to former cadets who entered the program from 1989 until 2010 and who have now either completed their rural service or withdrawn from the program. Smaller surveys were sent to the cadets who are still currently in the program either as medical students or junior medical officers undertaking their rural service. In addition, internal data collected by RDN as part of its administrative role has also been used.

3.1.1 Surveys

An initial data set was available for every cadet who has entered the program based on information gathered upon application, exit interviews and previous surveys. To standardise information collected, fill in missing data and to obtain more recent information on cadet career choices, a comprehensive survey tool was developed and sent to cadets from the 1989–2010 cohort. The survey covered background including individual and partner rural origin, other scholarships received, undergraduate rural placements, motivations for applying for the Cadetship, attitudes and behaviours post rural service, vocational training and location, and current role (Appendix 1).

The survey sent to the 2011–2012 cohort of cadets included the same questions on background, other scholarships, undergraduate rural placements and motivations for applying for the Cadetship. As this cohort is still undertaking their rural service they were not asked about post rural service behaviours or attitudes (Appendix 2). The cadets who are still at university (2013–2014 intake) were also asked about other scholarships, undergraduate rural placements and motivations for applying for the Cadetship, but not about their background as RDN already held this information for the whole cohort (Appendix 3). The surveys were created using SurveyMonkey and sent to participants via email in February 2014. Two follow-up emails were sent to non-responders three and six weeks after the initial contact. Email addresses were not available for a small number of cadets and in these cases surveys were sent by post or fax.

3.1.2 Response rates

Response rates for the three cohorts of cadets surveyed are summarised in Tables 3.1, 3.2 and 3.3.

Table 3.1 **Summary of response rates for cadets entering the Cadetship Program between 1989 and 2010, surveyed in 2014**

	Number	Comment
Total number of cadets	249	
Number of recipients	239	Three cadets in this cohort were still completing their rural service, six had previously indicated they did not want to be part of a longitudinal evaluation and one was known to be deceased.
Number of respondents	155	Giving a response rate of 65%.

Table 3.2 **Summary of response rates for cadets entering the Cadetship Program in 2011 and 2012, surveyed in 2014**

	Number	Comment
Total number of cadets	23	Includes two cadets who are still at university.
Number of recipients	24	Includes three cadets from earlier cohorts who were still completing their rural service.
Number of respondents	21	Giving a response rate of 88%.

Table 3.3 **Summary of response rates for cadets entering the Cadetship Program in 2013 and 2014, surveyed in 2014**

	Number	Comment
Total number of cadets	25	
Number of recipients	27	Includes two cadets from the 2012 intake who are still at university.
Number of respondents	25	Giving a response rate of 93%.

4. Quantitative Data

4.1 Number and demographics of cadets

Between 1989 and 2014, 297 medical students accepted a cadetship, an average of 11.8 cadets per year. This included six students who received a cadetship specifically for Indigenous medical students. Four students (1%) did not complete their medical degree. Of the remaining 293 students, 211 have completed their rural service, 23 are currently completing rural service and 27 are undergraduates. Thirty-two (11%) have withdrawn from the program, 16 before commencing rural service and 14 during rural service (Table 4.1). The proportion of cadets withdrawing from the program remains consistent with the previous evaluation in 2004.

The proportion of cadets represented among the general medical cohort in NSW is decreasing as the number of medical students increases while the number of cadetships remains the same. In 2013 the annual intake of cadets represented 1% of the NSW cohort of medical students, compared to 3% in 2004.[36] This is a very small, self-selected group of students, not easily compared with the overall medical student population. However, it is useful to identify trends within the cohorts of cadets and how they compare with wider groups of students. Just over half of cadets (57%) have been female, which is consistent with the gender distribution found in the previous evaluation in 2004 (Table 4.2) but slightly higher than the current overall Australian medical student population of 50%. [37]

The average age of cadets has increased in the last decade reflecting the introduction of additional graduate entry courses. The largest number of cadets still comes from The University of Newcastle, although the margin has narrowed between Newcastle and the other two long-established medical schools; The University of Sydney and The University of NSW. Of the more recently established medical schools, applicants from the University of Wollongong have been the most successful with 18 cadets coming from Wollongong over the last six years (Table 4.2). The reasons for this are unclear, but may reflect the fact that the University of Wollongong has a distinct focus on rural medicine and encourage interest in and exposure to rural health from the beginning of the postgraduate course.

Unlike the previous evaluation, cadets surveyed for this study were asked what type of place they held in medical school. Sixty-eight per cent of cadets responded to this question (n = 201). Of those, the majority (79%) held Commonwealth Supported Places (CSP) (HECS only), followed by Bonded Medical Places (BMP) (12%), Rural Origin Entry (5%) and Full Fee Paying (4%).

[36] The Medical Training Review Panel 17th Report. Health Workforce Australia 2014.
[37] Workforce Data Report 2014, Medical Deans Australia and New Zealand.

Table 4.1 **Summary of numbers of medical students applying for the NSW Rural Resident Medical Officer Cadetship Program (1989–2014)**

Year	Applicants	Interviewed	Awarded Cadetships	Withdrawn			Cadets completing rural service
				Before Graduation	Before rural service	During rural service	
1989	Unknown	Unknown	11	0	2	0	9
1990	Unknown	Unknown	5	1	1	0	3
1991	Unknown	Unknown	16	0	2	1	13
1992	32	Unknown	10	1	0	1	8
1993	49	25	8	0	0	1	7
1994	49	25	8	0	0	0	8
1995	38	21	9	0	0	0	9
1996	34	18	12	0	1	1	10
1997	28	21	14	0	2	2	10
1998	30	23	14	1	0	0	13
1999	21	16	13	0	1	0	12
2000	29	19	13	1	2	1	9
2001	33	18	14	0	2	0	12
2002	30	14	10	0	0	0	10
2003	28	17	11	0	0	1	10
2004	17	15	11	0	0	0	11
2005	23	17	11	0	1	1	9
2006	39	23	12	0	0	1[5]	11
2007	28	20	12	0	0	1	11
2008	20	20	10	0	0	1	8
2009	25	25	12	0	2	0	8
2010	24	20	13	0	1	2	10
2011	31[1]	22[1]	12[3]	0	0	0	12[6]
2012	29[2]	27[2]	11[1]	0	1	-	-
2013	39[3]	25[3]	13[3]	0	-	-	-
2014	30[4]	27[4]	12[1]	0	-	-	-
Total	**-**		**297**	**4**	**18**	**14**	**211**

1. Including two Indigenous students.
2. Including three Indigenous students.
3. Including one Indigenous student.
4. Including four Indigenous students.
5. Deceased prior to finishing rural service.
6. Expected to complete at the end of 2014, not included in the total.

Table 4.2 **Demographics of cadets (including all students accepting a cadetship; n = 297)**

Year	Awarded Cadetships	No. Female (%)	Average Age (years)	University								
				USyd	NSW	UON	ANU	UOW	UNE	UWS	Notre Dame	Other States[2]
1989	11	5 (45%)	23	1	5	5	0	0	0	0	0	0
1990	5	1 (20%)	25[1]	0	3	2	0	0	0	0	0	0
1991	16	10 (63%)	24	3	0	13	0	0	0	0	0	0
1992	10	8 (62%)	23	2	3	4	0	0	0	0	0	1
1993	8	4 (50%)	25	3	1	4	0	0	0	0	0	0
1994	8	5 (63%)	23	3	2	3	0	0	0	0	0	0
1995	9	6 (67%)	27	2	3	4	0	0	0	0	0	0
1996	12	9 (75%)	26	4	4	4	0	0	0	0	0	0
1997	14	7 (50%)	27	2	4	8	0	0	0	0	0	0
1998	14	8 (57%)	24	3	5	6	0	0	0	0	0	0
1999	13	5 (38%)	25	2	4	8	0	0	0	0	0	0
2000	13	8 (62%)	25	4	1	5	0	0	0	0	0	2
2001	14	9 (64%)	27	4	2	6	0	0	0	0	0	2
2002	10	6 (60%)	27	5	1	4	0	0	0	0	0	1
2003	11	6 (55%)	26	3	4	3	0	0	0	0	0	1
2004	11	5 (45%)	27	6	3	2	0	0	0	0	0	0
2005	11	7 (64%)	24	3	5	2	0	0	0	0	0	1
2006	12	9 (75%)	24	1	3	1	3	0	0	0	0	4
2007	12	10 (83%)	26	4	4	0	3	0	0	0	0	1
2008	10	4 (40%)	28	1	3	3	2	0	0	0	0	1
2009	12	7 (58%)	27	3	2	1	3	2	0	0	0	1
2010	13	6 (46%)	29	2	0	1	2	7	0	1	0	0
2011	12	7 (58%)	28	2	1	0	0	4	1	0	3	1
2012	11	6 (55%)	31	0	2	2	0	2	4	0	0	0
2013	13	6 (46%)	28	2	0	3	2	3	2	1	1	0
2014	12	5 (42%)	30	2	2	2	0	0	1	4	1	0
Total/ Average	**297**	**169 (57%)**	**26[1]**	**66**	**67**	**96**	**15**	**18**	**8**	**6**	**5**	**16**

1. One missing.
2. Flinders University (6), University of Queensland (4), James Cook University (2), Adelaide University (1), Griffith University (1), University of Tasmania (1), University of Western Australia (1).

4.2 Background of cadets and their partners

Strong evidence from various countries that rural origin is associated with future rural practice has led to the implementation of strategies to increase the proportion of rural origin students admitted to medical school. The background of cadets is defined by the Australian Standard Geographical Classification – Remoteness Areas (ASGC–RA) of the location where they spent the majority of their primary schooling (Table 4.3). This information is not available for 16 (5.4%) cadets. Of the remaining 281 cadets, 144 (51%) are from metropolitan areas, and 118 (42%) are from non-metropolitan areas. A further 7% spent the majority of their primary schooling overseas. This distribution is consistent with the previous evaluation and indicates the proportion of cadets from non-metropolitan backgrounds is higher than that of the general medical student population of around 27%.[37] Not surprisingly, this difference would appear to indicate that rural students are attracted to the Cadetship Program. However, the majority of cadets still come from metropolitan areas.

Up until 1998 the number of cadets with a rural or remote background showed an upward trend (Figure 4.1). Between 1998 and 2003 there was a significant shift with the number of cadets from

inner regional areas dropping and numbers of cadets with metropolitan backgrounds increasing sharply. During the last decade the numbers of cadets from rural, remote and metropolitan areas has mostly increased, as the number of cadets born overseas has decreased.

Consistent with the overall distribution, there are slightly more females in each group of cadets from the various geographic areas with the exception of remote areas where the distribution is even and the group of cadets born overseas where three quarters are female. The interaction between where cadets grew up and the university they chose to study medicine was quantified after excluding cadets of unknown and overseas backgrounds (n = 34). The University of Wollongong hosted the highest proportion of cadets from non-metropolitan areas (65%) followed by the University of Notre Dame (60%), the University of New South Wales (50%) and The University of Newcastle and the Australian National University (46% respectively).

The survey asked cadets if they considered themselves to come from a rural background. Sixty-seven per cent of cadets responded to this questions (n = 198). Of these, 53% identified as having a metropolitan origin and 47% rural. In comparing these figures to those determined by the RA classification, it would be reasonable to assume the majority of cadets born overseas (who are excluded from the RA classification) consider themselves to have a rural background.

Similarly, the same percentage of cadets responded to a question asking if their partner or spouse comes from a rural background. Of those, 37% said no, 40% said yes and the question was not applicable for 24% of cadets.

Figure 4.1 **The geographical background of cadets based on the ASGC–RA of the location where they did the majority of their primary schooling, as a function of the year they entered the program**

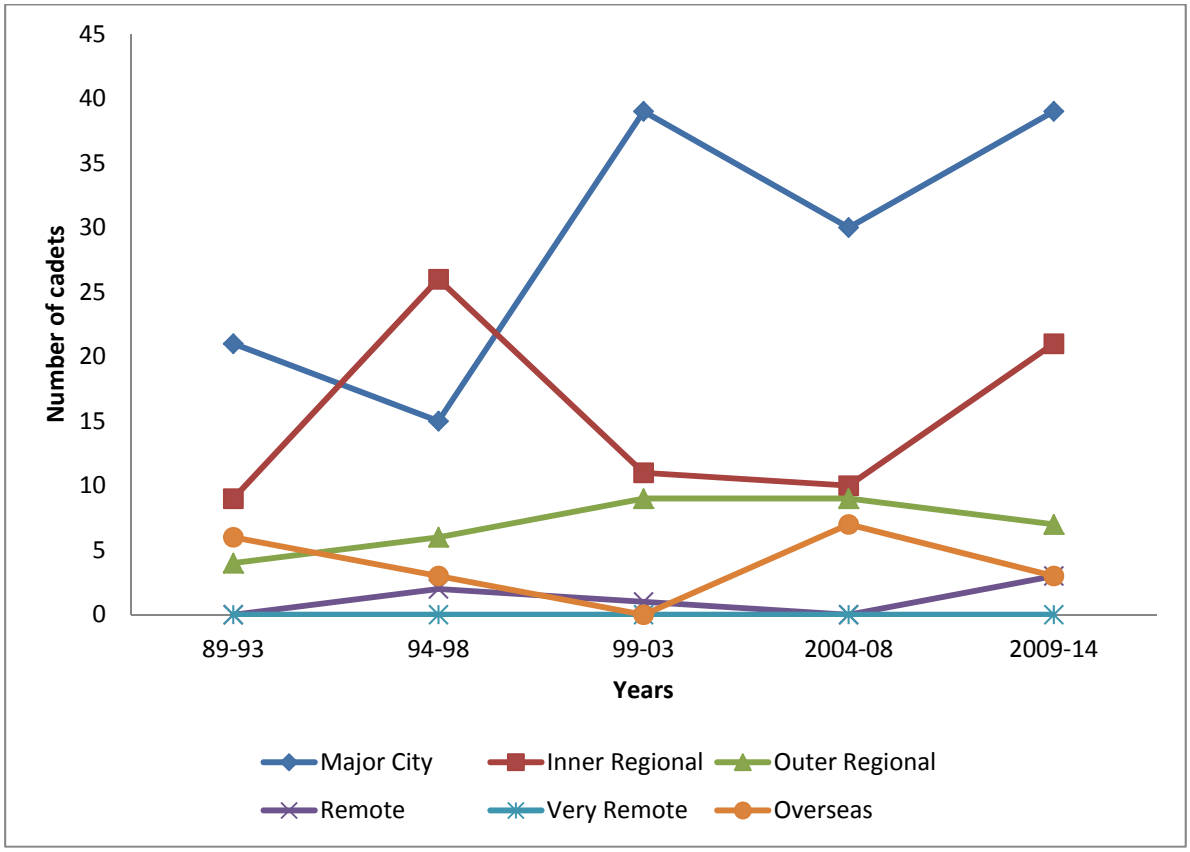

Table 4.3 **Background of cadets based on the ASGC–RA of the location where they did the majority of their primary schooling (n = 297)**

Year	Awarded Cadetships	Major Cities RA1	Inner Regional RA2	Outer Regional RA3	Remote RA4	Overseas	Missing
1989	11	2	0	0	0	3	4
1990	5	3	0	0	0	0	2
1991	16	8	5	0	0	1	2
1992	10	4	2	2	0	1	1
1993	8	4	2	1	0	0	1
1994	8	1	4	1	0	1	1
1995	9	4	3	0	0	0	2
1996	12	4	4	1	0	1	2
1997	14	5	5	3	1	0	0
1998	14	1	10	1	1	1	0
1999	13	9	0	3	1	0	0
2000	13	6	4	2	0	0	1
2001	14	12	2	0	0	0	0
2002	10	5	2	3	0	0	0
2003	11	7	3	1	0	0	0
2004	11	7	0	4	0	0	0
2005	11	8	1	1	0	1	0
2006	12	6	3	2	0	1	0
2007	12	5	2	1	0	4	0
2008	10	4	4	1	0	1	0
2009	12	6	3	2	0	1	0
2010	13	6	4	1	1	1	0
2011	12	6	5	1	0	0	0
2012	11	5	4	1	0	1	0
2013	13	7	3	2	1	0	0
2014	12	9	2	0	1	0	0
Total/%[1]	**297**	**144 (51%)**	**77 (27%)**	**35 (12%)**	**6 (2%)**	**19 (7%)**	**16**

1. Percentage of cadets of known background (n=281) for each geographic classification.

4.3 Rural service

As a result of the Cadetship Program, there have been 248 cadets working in the rural hospitals in New South Wales and 211 of those have done so for two years. Information is available for 173 (70%) of those who have completed at least one year of rural service. Around half (48%) of those indicated they would not have, or are unsure if they would have, applied for a position in a rural hospital as a junior doctor without a cadetship.

Cadets graduating prior to the full accreditation of rural home hospitals (intakes 1989 and 1990) commenced their service after PGY2 and did so in a range of locations including coastal hospitals (Table 4.4). Cadets undertaking their rural service after 1992 are much more likely to have commenced in PGY1. Only 17% of cadets have taken the option of completing rural service in PGY2 and PGY3.

Table 4.4 **Rural service locations based on the year of entry into the Cadetship Program (includes all cadets completing at least one year of rural service, n = 248)**

Year	Location of rural service by cadets																	
	Orange			Tamworth			Wagga Wagga			Dubbo			Albury			Other		
PGY	**1**	**2**	**3/4**	**1**	**2**	**3/4**	**1**	**2**	**3/4**	**1**	**2**	**3/4**	**1**	**2**	**3/4**	**1**	**2**	**3/4**
1989–91	2	6	7	0	4	4	1	2	4	0	0	0	0	0	0	0	4	11
1992–94	4	5	1	11	16	3	3	3	0	0	0	0	0	0	0	0	0	1
1995–97	7	10	3	11	12	2	8	6	0	0	0	0	0	0	0	0	0	0
1998–2000	7	8	1	13	13	1	12	13	1	0	0	0	0	0	0	0	0	0
2001–03	8	6	0	12	9	2	9	5	0	0	0	0	0	0	0	0	2	0
2004–06	10	9	0	7	8	1	14	12	0	0	0	0	0	0	1	0	0	0
2007–09	5	5	0	10	10	1	8	8	0	2	2	0	4	5	1	0	0	0
2010–12	5	6	0	12	12	0	8	8	0	2	2	0	2	3	1	0	1	1
Total	48	55	12	76	84	14	63	57	5	4	4	0	6	8	3	0	7	13

4.4 Work location immediately following rural service

Of the 211 cadets who completed the two years rural service, post rural service work locations are known for 145 (69%). Of those, 55% remained in the same area for at least one year following their rural service (n = 80). A quarter remained in the same area for three years or more. Forty-five per cent (n = 65) moved to another area following their rural service, including four who moved to a different rural location. The most common reason cadets relocated was to commence vocational training in a metropolitan area. Other common reasons for relocating include their partner's employment and wanting to move to a metropolitan area.

4.5 Career choice

Former cadets (intake years 1989–2010) were questioned about their career choices and current practice location. There are 211 cadets in this cohort, excluding three who are still completing their rural service, four who did not complete undergraduate studies, 32 who did not complete their rural service, and one who is deceased. Of the 211, career choice information is available for 187 of them (89%).

Forty-five per cent have chosen general practice, 52% have chosen different specialities (Anaesthetics/ICU, Emergency Medicine and Physicians being the most popular) and 3% are working as hospital non-specialists. These figures show the proportion of cadets choosing general practice has remained steady since the previous evaluation (also 45%), while the percentage of cadets choosing other vocational training programs has increased from 44%. The number of cadets working as hospital non specialists has decreased from 11% in 2004.

Table 4.6 **Vocational training choice of cadets entering the program before 2011 (excludes those who withdrew from the program before completing rural service; n = 187)**

Career Choice	Fully Qualified	Trainees or Registrars	Total
General Practice: Procedural GP Rural Generalist Training	68 9 -	14 - 4	82
Specialists:	(56)	(38)	(94)
Anaesthetics/ICU	16	11[1]	27
Dermatology	-	3	3
Emergency Medicine	10	6	16
Haematology	-	1	1
Obstetrics and Gynaecology	3	1	4
Ophthalmology	1	1	2
Orthopaedics	-	1	1
Paediatrics	3	3	6
Pathology	-	1	1
Physician	9	2	11
Psychiatry	5	1	6
Rehabilitation	1	2	3
Sexual Health Medicine and Public Health	1	-	1
Sports and Exercise Medicine	-	1	1
Surgery	7	3	10
Hospital non-specialists	-	-	3
Resident Medical Officers	-	-	3
No longer practising	-	-	5

1. Two undertaking ICU/ED Dual Training.

4.5.1. Practice location

Almost half of cadets who entered the program before 2011 and completed their rural service are now working in non-metropolitan locations in Australia (n= 87, 48%) (Table 4.7). This includes 76 in inner regional areas, 10 in outer regional and one in a very remote area. Fifty-one per cent are now working in metropolitan locations (RA1). Forty-six (26%) of the cadets are working interstate. The majority of these work in Queensland (12), ACT (10) and Victoria (8) and most work in metropolitan areas. In comparison with the 2004 evaluation, the distribution is similar; however, more cadets are now working in non-metropolitan areas than ten years ago (48% compared to 43% in 2004).

Consistent with the previous evaluation, the results of this study demonstrate that cadets who chose general practice are more likely to be working in non-metropolitan areas than those who chose other specialities (Table 4.7).

Of the 92 cadets working in metropolitan locations, 19 (20%) maintain links to rural practice such as providing outreach services, locuming in rural areas, and working as a medical educator in rural areas.

Table 4.7 **The relationship between career choice and practice location for cadets entering the program before 2011 (excludes those who are no longer practising medicine; n= 182)**

Geographical Location of Cadets (RA)	GPs	GP Registrars	Specialists	Specialists registrars/trainees	Hospital non specialists	Total
RA1	22	3	39	25	3	92
RA2	37	9	16	11	3	76
RA3	7	1	1	1	-	10
RA4	-	-	-	-	-	-
RA5	1	-	-	-	-	1
Overseas	1	1		1		3
Total	**68**	**14**	**56**	**38**	**6**	**182**

4.5.2 Background as an influence on career choice and practice location

Both background and career choice information is available for 173 past cadets entering the scheme before 2011 and completing their rural service (82%) (Table 4.8). On this basis, the area where past cadets grew up appears to have had some influence on their career choice with 51% of cadets from a non-metropolitan background choosing general practice, while among cadets from a metropolitan background the number choosing general practice is 39%.

Table 4.8 **The relationship between career choice and background of cadets (excludes those who are no longer practising medicine; n = 173)**

Background	RA1	RA2	RA3	RA4	RA5	Overseas	Total
General Practice	32	24	11	4	-	5	76
Specialist Practice	49	26	9	1	-	6	91
Hospital non-specialist	3	1	1	-	-	1	6
Total	**84**	**51**	**21**	**5**	**-**	**12**	**173**

A similar analysis of 173 cadets comparing background and practice location showed cadets who came from a non-metropolitan background were more likely to be working in a non-metropolitan location (Table 4.9). This also corresponds with the practice locations of cadets who consider they come from a rural background. Of the cadets who completed their rural service and are currently practising medicine, 140 responded to the survey question asking if they considered themselves to come from a rural background. Of the 64 cadets who responded affirmatively, 41 (64%) are currently working in a non-metropolitan location. In contrast the cadets who consider themselves of urban origin, 33 (43%) are currently working in non-metropolitan areas.

Table 4.9 **The relationship between practice location and background of cadets (excludes those who are no longer practising medicine; n = 173)**

Background of cadets (RA)	Practice location of cadets in 2014 (RA)						
	RA1	RA2	RA3	RA4	RA5	Overseas	Total
RA1	48	31	2	-	1	2	84
RA2	23	25	3	-	-	-	51
RA3	7	12	2	-	-	-	21
RA4	1	2	2	-	-	-	5
RA5	-	-	-	-	-	-	-
Overseas	6	5	-	-	-	1	12
Total	**85**	**75**	**9**	**-**	**1**	**3**	**173**

4.5.3. Influence of partner origin on practice location

An analysis of 142 cadets who have completed their rural service found that those with a partner of rural origin were slightly more likely to be working in a non-metropolitan location than those with partners of urban origin. Of the 52 cadets with partners of rural origin 33 (63%) are currently working in non-metropolitan areas. Conversely, of the 62 cadets with partners of urban origin, 30 (48%) are currently working in non-metropolitan areas. Cadets without a current partner were no more likely to be working in a rural or urban area. However, these results were not statistically significant.

4.6 Other scholarships

Of the 297 cadetship recipients, information about other scholarships received is known for 221 (74%). Just less than half reported not receiving any other scholarships during their medical studies, while 52% of cadets had held another scholarship. The most common scholarships held are the John Flynn Placement Program scholarships (52) and the RDN-administered Bush Bursary/CWA Scholarship (44). Both are aimed at providing undergraduates exposure to rural medicine and lifestyle and building connections with particular rural locations.

4.7 Influence of undergraduate rural placements and attendance at a Rural Clinical School on practice location

Sixty-seven per cent of cadets who entered the program before 2011 and completed their rural service responded to the question about undergraduate rural placements (n=142) (Table 4.10). Of those, 92% reported having undertaken a rural placement as an undergraduate (n=130), 74% completed multiple rural placements and 23% completed a year-long rural placement. Of those who completed a year-long rural undergraduate placement, 69% reported the time spent at a rural clinical school influenced their career decisions.

Interestingly, Table 4.10 shows that among cadets who responded to this question (67%), there is a higher proportion who did not undertake an undergraduate rural placement and who are now working in a regional or rural area than those who did. Of the 12 cadets who reported not undertaking any rural undergraduate placements, nine (75%) are currently practising in a non-metropolitan location. In comparison, 65 cadets who did undertake rural undergraduate placements are practising in non-metropolitan areas (50%).

Table 4.10 **Relationship between cadets who completed undergraduate rural placements and practice location n = 142**

Rural Undergraduate Placements Undertaken	Practice location of cadets in 2014 (RA)				
	RA1	RA2	RA3	Overseas	Total
Nil	2	8	1	1	**12**
At least one	63	57	8	1	**130**[1]
Multiple	50	48	6	1	**105**
Year-long	13	17	2	0	**32**

1. Excludes one who is no longer practising.

5. Qualitative Data/The Experience of Being a Cadet

The survey included qualitative questions looking at factors that influenced cadets' interest in rural health, rural placements undertaken as an undergraduate, reasons for deferring or withdrawing from the cadetship and the influence of the Cadetship Program on their subsequent career decisions. In addition to this recently collected data, information was also drawn from exit interviews including advantages and disadvantages of being a cadet, reasons why they chose a particular hospital for rural service, attitudes to rural practice pre and post rural service and the experience of working in a rural hospital.

5.1 Interest in rural health

Sixty-seven per cent of cadets responded to the question 'Prior to applying for the Cadetship what influences were important in fostering your interest in rural health?' Cadets were asked to indicate how influential certain factors were on a scale from major influence to negative influence (Table 5.1).

Table 5.1 **The importance of various factors in fostering an interest in rural health n = 197**

Influencing Factor	Major Influence	Minor influence	No Influence	Negative Influence	Total
Rural background or exposure	118 (60%)	37 (19%)	41 (21%)	-	**196**
Rural placements	100 (50%)	63 (32%)	37 (18%)	-	**197**
Other scholarships	25 (12%)	44 (23%)	127 (65%)	1 (0%)	**197**
Involvement in the Rural Health Club (RHC)	31 (15%)	64 (33%)	101 (52%)	1 (0%)	**197**
Supervisor/Lecturer	17 (9%)	69 (35%)	108 (55%)	3 (1%)	**197**
Medical school in general	42 (21%)	81 (41%)	72 (37%)	2 (1%)	**197**

Overwhelmingly the most influential factors were rural background or exposure and rural placements. It is worth noting that 47% of cadets come from a rural background (Section 4.2) and 92% of cadets reported they had undertaken rural placements as undergraduates. The least influential factors were other scholarships, supervisor/lecturer, and involvement in an RHC. Fifty-two per cent of cadets reported holding another scholarship as an undergraduate (Section 4.6), which indicates that among cadets, rural background or exposure is significantly more influential in fostering an interest in rural health prior to applying for the Cadetship than other scholarships.

Twenty-nine respondents specified other factors influencing their interest in rural health. Six of these comments were around partner and family including being married to a farmer and the appeal of raising a family in the country. Five others mentioned being aware of workforce shortages and feeling a social responsibility to contribute. Another five cited career options and the challenge and variety of being a rural GP.

A handful of cadets indicated some of the suggested factors were a negative influence on their interest in rural health. Four cadets reported receiving negative messages about rural practice during medical school and one cadet reported being disadvantaged when applying for rural scholarships as an urban origin student.

5.2 Reasons students apply for the cadetship

The same number of cadets responded to a question regarding the most important factors in influencing their decision to apply for a cadetship (Table 5.2). Consistent with the findings of the 2004 evaluation, the majority of cadets reported that the financial support provided during the last two years of undergraduate study was the most influential factor in their decision to apply for a cadetship. The other two major influences were found to be a desire to undertake postgraduate training in a rural area, and an intention to work in a rural area long-term.

A small number of cadets nominated other factors that influenced their decision including the opportunity to gain more clinical experience as a junior doctor, a desire to help address medical workforce shortages in rural areas, and the opportunity to meet like-minded people and attend networking events.

Five cadets reported some influential factors as being negative in their decision to apply for a cadetship. Two received advice that training in a rural area would decrease career opportunities and another three stated they did not want to be bonded or work rurally long-term but desperately needed the money.

Table 5.2 **The importance of various factors in influencing the decision to apply for a cadetship n = 197**

Influencing Factor	Major Influence	Minor Influence	No Influence	Negative Influence	Total
Financial Support	156 (79%)	41 (21%)	-	-	197
Advice from others	47 (24%)	84 (43%)	65 (33%)	1 (0 %)	197
Time spent at a Rural Clinical School (RCS)	36 (18%)	56 (28%)	105 (54%)	-	197
Desire to undertake postgraduate training in a rural area	126 (64%)	53 (27%)	16 (8%)	2 (1%)	197
Long-term intention to work in a rural area	117 (59%)	62 (32%)	17 (9%)	1 (0%)	197
Improve chances of obtaining preferred intern position	35 (18%)	51 (26%)	110 (56%)	1 (0%)	197
Wanted to be challenged/taken out of comfort zone	49 (25%)	61 (31%)	86 (44%)	1 (0%)	197

5.3 Choice of location for rural service

Consistent with the previous evaluation, some of the most common reasons given by cadets for their choice of hospital to undertake their rural service were to be close to family or friends (40%), previous positive experiences as an undergraduate undertaking placements or electives (23%) and word of mouth – often from other cadets who had worked in the hospital (16%). Unlike the previous evaluation, a significant number of cadets made their decision because they liked the town and/or the hospital (23%). Those who mentioned the hospital talked about the size, terms offered including PGPPP and vocational training opportunities available in the longer term. This difference is likely to

do with the fact that cadets now have five hospitals to choose from rather than three, and the two new additions–Dubbo and Albury–are smaller hospitals with fewer training options.

A significant proportion of cadets also made their choice based on their partner's employment opportunities (22%) and the proximity of the town to Sydney or Melbourne (11%). A small group of cadets nominated particular hospitals because they had not spent much time there and wanted to experience something different (2%) or because they did not want to go to the other hospitals or towns (7%).

The university attended seems to have some influence over the location of rural service (Table 5.3). Consistent with the findings of the previous evaluation, the highest proportion of cadets attending The University of Newcastle completed their rural service in Tamworth while cadets from The University of Sydney were more likely to choose Orange. These figures are to be expected considering The University of Sydney has a Rural Clinical School in Orange and The University of Newcastle has one in Tamworth. Cadets from the University of New South Wales were quite evenly spread between the three original hospitals–Orange, Tamworth and Wagga Wagga. Of the newer medical schools, the majority of cadets from the Australian National University went to Wagga Wagga, cadets from the University of Wollongong mostly went to Tamworth or Wagga Wagga and most of the cadets from the University of New England (3 out of 5) have gone to Tamworth.

Similarly, there are some trends in relation to where cadets grew up and where they undertook their rural service. Of the 44 cadets who grew up in the Newcastle, Hunter and New England regions, 23 completed their rural service in Tamworth. However, there are no clear trends between cadets growing up in other areas and their choice of hospital for rural service.

Table 5.3 **Relationship between where cadets did their PGY1 and the university they were enrolled at when making the choice, 1989 - 2012 intakes n = 272)**

University	Newcastle	Sydney	UNSW	ANU	Wollongong	New England	Western Sydney	Notre Dame	Interstate
Location of PGY1	Number (%)								
Not rural[1]	25 (27)	14 (23)	13 (20)	2 (15)	2 (13)	-	-	1 (25)	4 (25)
Orange	11 (12)	21 (33)	16 (25)	-	1 (7)	1 (20)	-	1 (25)	1 (6)
Tamworth	37 (41)	13 (21)	14 (22)	3 (23)	6 (40)	3 (60)	-	-	6 (38)
Wagga Wagga	16 (18)	13 (21)	15 (23)	8 (62)	5 (33)	1 (20)	1 (100)	-	4 (25)
Dubbo	-	1 (2)	2 (3)	-	-	-	-	1 (25)	1 (6)
Albury	2 (2)	-	4 (7)	-	1 (7)	-	-	1 (25)	-
Total	**91**	**62**	**64**	**13**	**15**	**5**	**1**	**4**	**16**

1. This includes early intakes of cadets who were unable to do their internships in a rural hospital, cadets who chose to undertake their internship in a metropolitan hospital, and cadets who withdrew from the program.

5.4 Reasons for deferring rural service

Seventeen per cent (n = 50) of cadets deferred their rural service until their second or third postgraduate year. For a third of these (n=16) the reason for deferral is unknown. Around a quarter (n=12) entered the program in 1989 or 1990 and had no option to begin their rural service in their intern year. Of the remaining 22 deferring cadets, nine

indicated they deferred due to their partner's career, while four wanted to spend time in a metropolitan hospital as a junior doctor. Other reasons given for deferring rural service included choosing to undertake PGY1 in a rural area interstate, not feeling ready to relocate to a rural area at that stage for various reasons including financial circumstances or a reluctance to leave family and friends.

5.5 Reasons for withdrawing from the cadetship

Of the 266 cadets that have completed their medical degree, 31 have withdrawn from the Cadetship Program (11%). Of those, 19 withdrew before undertaking their rural service and 12 during rural service. This percentage and the fact that there are no trends in gender, university or year of intake among those who withdrew is consistent with the previous evaluation. Of the 31 who withdrew, 20 are currently working in metropolitan locations, three are working in non-metropolitan locations, two are no longer practising, one is overseas and the work location of the other five is unknown.

The most common reasons given for withdrawing from the program were restrictions on where their partner could work or study and concerns about rural hospital training restricting their ability to obtain a position on a particular vocational training program. Other reasons included choosing to go overseas or train interstate. Four cadets who withdrew during their rural service indicated they were unhappy in their rural location.

5.6 Advantages and disadvantages of holding a cadetship

Cadets were asked during their exit interviews about the advantages and disadvantages of holding a cadetship, a question which encompasses both the program generally, and the period of rural service. Unsurprisingly, the biggest advantage cited by cadets of holding a cadetship was the financial support while they were at university (82%). Some cadets said without the scholarship they would not have been able to continue studying while for others it allowed them to cut back or cease working altogether and focus on their studies. However, increasingly cadets are identifying other advantages to holding the cadetship, and in some cases ranking these factors as a greater advantage than the financial support. These include the opportunities to attend education events such as CPD conferences and cadet weekends (33%), meeting and developing friendships with other like-minded cadets (who then became colleagues after graduating) (21%) and the opportunity to establish connections and build networks with rural doctors and training providers (21%).

Other advantages mentioned by smaller numbers of cadets included assistance in applying for an intern position (18%), non-financial support and advice from RDN (15%) and the opportunity for exposure to rural practice (9%). Other comments from cadets regarding the advantages of holding a cadetship included:

> *'it gave you an identity, a feeling of being part of a group'*
> *'provided a level of certainty, one less decision to make'*
> *'provided a sense of security/direction'.*

Just over half of cadets felt there were some disadvantages of holding a cadetship. The most commonly cited disadvantages were financial–the cadetship payments are considered taxable income (21%) and cadets are restricted from claiming the HECS reimbursement during their two years rural service (21%). A number of cadets felt the limited choice of hospital where they could undertake their rural service (13%) and the

commitment to RDN (12%) and was a disadvantage. As could be expected, the personal circumstances for some cadets changed in the years between accepting a cadetship and completing their rural service. In some cases these cadets withdrew from the program and repaid the money; however, others who felt an obligation to RDN or could not afford the repayments, fulfilled their commitments somewhat reluctantly. Another small group of cadets would have liked to undertake their rural service in a non-metropolitan hospital on the coast, including some cadets from recent cohorts who were based at the Rural Clinical Schools in Port Macquarie, Lismore or Coffs Harbour during their final years of university. Similarly, others felt the inflexibility of the timeframe around rural service was a disadvantage and would have preferred to complete the bond later or over a longer period of time. There were a handful of other comments related to undertaking rural service including being away from family (in two cases contributing to the breakdown of relationships) and the restrictions on further training.

5.7 Influence on future career

In the survey for this current evaluation, cadets who had exited the program (intakes 1989–2010) were asked how important the cadetship and period of rural service had been in influencing their career path and influencing their decision to practise rurally. There are 241 cadets in this cohort, excluding three who are still completing their rural service, four who did not complete undergraduate studies and one who is deceased. Of the 241, 150 responded to the question regarding the importance of the cadetship in influencing their career decisions. Forty-three per cent (n=64) indicated the cadetship and period of rural service was very important in influencing their career path, while a further 40% (n=60) indicated it was somewhat important. Only 17% (n=26) reported the cadetship and period of rural service had no influence on their career path.

> *'During my rural service I was offered opportunities to pursue GP procedural training. Training posts were established for me locally in our LHD. These opportunities shaped and influenced my career path.'*

Similarly, 17% of cadets reported the cadetship had no influence on their decision to practise rurally, while 36% indicated it was very important and somewhat important for 47%.

> *'Influenced my decision to return to rural area, gave good comparison to my Sydney terms as a registrar, gave me confidence to leave Sydney again after Registrar training.'*

Cadets were also asked if they would have undertaken their postgraduate training in a rural hospital had they not received a cadetship. Fifty-two per cent of cadets indicated they would still have applied for a postgraduate position in a rural hospital without the cadetship.

> *'I intended to complete my training in a rural hospital anyway, but having the Cadetship meant I could find out more about the rural options, and meet others who were going to do the same.'*

Twenty-two per cent said they would not have applied to a rural hospital while a further 26% said they were unsure what they would have done. Of the 48% of cadets who may not have otherwise undertaken their postgraduate training years in a rural hospital, one third is currently working in RA2 or RA3 locations.

5.8 Would you recommend a cadetship to others?

Consistent with the previous evaluation, the vast majority (85%) of cadets across all intake years would recommend the cadetship to other medical students, though a small number of those qualified their responses. The most common qualification was having a real interest in working and living in a rural centre and a willingness and ability to fulfill the two-year bond (not having commitments keeping them in a metropolitan area). A small group of cadets also expressed concerns around access to training programs other than general practice with one cadet claiming rural training makes it harder to move back to the city for specialist training.

However, the majority of cadets expressed unreservedly positive sentiments of the benefits of the program including the financial support, the broad, general experience gained from training in a regional hospital and the lifestyle advantages of living in a non-metropolitan area. Others noted the benefits of peer support that comes from being part of a group, as well as the support and opportunities provided by RDN.

> *'Great support, helps one to take the plunge in committing oneself to rural practice, fun to get to know and work with other cadets (long term friendships and colleagues), financially very worthwhile, great to have junior doctors working in rural hospitals who actually wish to be there rather than being forced through compulsory rotations.'*

In contrast to the few cadets who stated that postgraduate rural training limited career choice, a larger number of cadets reported their rural service positively influenced their application for specialist training. This view is supported by the finding that 51% of cadets entering the program before 2011 have become or are training to become specialists (Section 4.5).

> *'Good experience and exposure to common medical and surgical rotations. Work closely with consultants. Don't get 'lost in the crowd' - easy to get involved in work and social activities, and take on positions of leadership, which help vocational training program applications.'*

Sixteen cadets (11%) indicated they were unsure if they would recommend the cadetship and six would not recommend it (4%). Reasons given for not recommending the cadetship included: rural hospitals do not provide enough support, the financial benefit is negated once tax is applied, the requirements were too inflexible, and that it does not result in long-term rural practice.

Similar reasons were given by those who were unsure if they would recommend the cadetship. For other cadets in this group their hesitation was due to not knowing how the program is structured now, while others said it would depend on the type of person.

> *'It would suit some students but not others.'*
> *'I think it depends on the person. It is isolating to move away from family and friends. Some would struggle.'*
> *'If they were interested in rural medicine, or might be interested, then yes. Otherwise no.'*

5.9 Addressing suggested changes to the Cadetship Program

As part of their exit interviews, cadets are asked about modifications to the program and things RDN could do to influence junior doctors to remain in rural areas. As the exit interviews occur annually, RDN has an opportunity to implement changes relatively quickly and continually improve the program for subsequent cadet intakes. Therefore, in many cases RDN has already initiated strategies to address the suggestions below:

Promotion

- Promote the program more widely, and increase RDN presence at universities including RCS.
- Communicate message that postgraduate rural training helps specialty training options.
- Early rural experience/exposure; run a 'bush trauma' week to encourage interest in rural medicine and the cadetship.

Undergraduate training support

- Help for graduating cadets to apply for intern positions–undergraduate cadets, especially those in their final year now receive information and advice from current and former rural service cadets and HETI about applying for intern positions during the annual Cadet Weekend (Section 2.6).
- Rural service cadets to talk to student cadets about training options and to dispel myths–this also occurs during cadet gatherings including the Cadet Weekends and RDN conferences (Section 2.7).

Postgraduate training and support

- Increase support for rural service cadets–rural service cadets are visited annually or biannually and connections with local training organisations and local doctors are facilitated through networking dinners. RTPs are informed of cadets in their region and encouraged to extend educational opportunities to them (Section 2.7).
- More formal mentorship–new rural service cadets are now allocated a mentor who is a more senior rural service cadet or former cadet in their area.

Other

- Increased opportunities for partners–partners are invited to attend conferences and cadet weekends, and are linked with the RMFN (Section 2.7).
- Include a broader focus on other specialties rather than just general practice–cadet weekends and meetings include presentations from former cadets undertaking training in non-GP specialties, undergraduate cadets are also provided opportunities to attend specialist outreach clinics through the RDN Outreach program.
- Consistent with the previous evaluation, the most common suggestion to influence junior doctors to remain in rural areas does not involve a change in the cadetship, but an increase in options for specialist training in rural areas. An increasing number of cadets state during their exit interviews that they would have remained in the location where they completed their rural service had there been an option to undertake their vocational training there.
- The majority of cadets felt the advantages of holding a cadetship outweighed the disadvantages and valued the training they received as junior doctors in rural hospitals.

6. Discussion

6.1 Recruiting doctors to work in non-metropolitan NSW

Despite the significant changes to medical education and incentives aimed at increasing the number of medical graduates choosing to work in rural areas, the proportion of practitioners per capita in non-metropolitan areas still lags well behind that of major cities. In 2012 there were 418 practitioners per 10,000 in major cities across Australia, compared to 265 in non-metropolitan areas.[38] It also remains difficult to recruit Australian graduates to the non-metropolitan workforce with overseas trained doctors making up 40% of GPs in rural and remote areas in NSW.[39]

When the Cadetship Program began in 1989 there was little encouragement for medical students to work in rural areas. However, the last two decades have seen the introduction of Rural Clinical Schools (RCS) and University Departments/Centres of Rural Health as well as non-metropolitan hospitals gaining accreditation to provide prevocational training. One quarter of Commonwealth-supported medical students are expected to spend at least one year of their clinical training in a rural setting and an increasing number are spending half or the majority of their training rurally. Similarly, positive changes have occurred in postgraduate training with the percentage of PGY1 places in non-metropolitan areas accounting for 13.6% of total positions in 2014 compared to 5.3% in 2004. Both of these developments have meant many more students and junior doctors have had the opportunity to experience rural practice resulting in a gradual shift in common perceptions around rural training.

Of all the vocational training programs, general practice training is still the most versatile for those doctors wishing to become part of the rural workforce. General practice registrars can complete all their training through regional training providers without the need to return to a metropolitan setting. Cadets can begin general practice training during the rural service component of their cadetship (Section 2.5.2).

Unfortunately, cadets and other junior doctors wishing to gain experience in rural general practice during their prevocational training years will have less opportunity to do so with the withdrawal of federal funding for the Prevocational General Practice Placements Program (PGPPP) announced this year.[40] Eighteen former cadets entering the program between 2004 and 2011 who completed their rural service reported undertaking a PGPPP placement (26%).

Previous evaluations of the Cadetship Program found that some cadets were concerned that spending two years in the country would inhibit their opportunities for obtaining a position on a speciality training program. However, in this current evaluation, of the cadets who responded to the survey and completed their rural service, only six (4%) expressed such sentiments. The vast majority of cadets believe the period of rural service had a positive effect on their career, regardless of their chosen speciality. Changing perceptions about the value of rural experience in both universities and specialist colleges

[38] Australian Institute of Health and Welfare 2014. Medical Workforce 2012. National health workforce Series no. 8. Cat. no. HWL 54. Canberra: AIHW.
[39] NSW Rural Doctors Network (2012). Medical practice in rural and remote NSW: Minimum Data Set report as at 30th November 2012. Newcastle: NSW Rural Doctors Network.
[40] The Australian Government Department of Health and Ageing. Prevocational General Practice Placements Program. Page available at: http://www.health.gov.au/pgppp (accessed 12/8/2014).

would likely be contributing to this shift in attitudes among cadets. Specialist colleges vary widely in the flexibility of their training programs, and while the majority of specialist training is still undertaken in metropolitan areas, some vocational programs offer posts in non-metropolitan areas. Many programs allow trainees to undertake at least part of their accredited vocational training in non-metropolitan areas. Of the cadets who reported having completed or commenced vocational training, 83% reported having the option of doing all or part of their training in a non-metropolitan area. Among the remaining cadets who were unable to undertake any of their training rurally, half said they would have if they had the option.

The move towards vertical integration has enabled a 'rural stream' to be developed within some areas of medicine so that appropriate experience and training can occur. This is most advanced in general practice and emergency but other specialties are slowly moving in this direction. The Cadetship Program provides an important link in the pathway between rural undergraduate and vocational training.

6.2 The Cadetship Program in relation to other scholarships and undergraduate rural exposure

The basic selection criteria for students applying for the Cadetship Program have not changed significantly over the last 25 years. However, the extent to which undergraduates can become involved in rural medicine has increased significantly with the advent of undergraduate placements, RHCs, university departments and centres of rural health and RCSs. Initiatives such as RCTS, the John Flynn Scholarship Scheme and RDN Bush Bursaries/CWA Scholarships have also enabled undergraduates to experience living and practising medicine in rural communities. As a consequence, many cadets are now better prepared for rural service. Over half of cadets (52%) reported holding another scholarship during their medical degree, most commonly, the John Flynn or Bush Bursary/CWA Scholarship.

In addition, 92% of cadets reported having undertaken a rural placement as an undergraduate while 74% completed multiple rural placements and 23% completed a year-long rural placement. Of those who completed a year-long rural undergraduate placement, 69% reported the time spent at a rural clinical school influenced their career decisions.

The introduction of the RAMUS and MRBS appear to have had little effect on the number of cadetship applicants as the average number of applicants in the last ten years is consistent with the previous decade. Despite these alternative scholarships and the increasing opportunities to obtain a postgraduate position in a rural hospital, the cadetship remains an attractive and sought after program, competitive enough to select at least 12 high quality applicants each year. While some rural origin students have chosen not to accept cadetships in deference to receiving RAMUS, which carries no contracted rural service, others have withdrawn from RAMUS to accept a cadetship. The Cadetship Program is becoming known among medical students not only for the financial support and assistance in gaining a desired postgraduate position, but also for the many networking and development opportunities available. Similarly, for students from a metropolitan background who may not be successful in receiving an MRBS or do not wish to undertake the lengthy rural commitment, the cadetship remains an important avenue for financial support and experience as a junior doctor in rural areas. More than half of the cadets to date (Table 4.3) have come from a metropolitan background and

41% of those who have completed their rural service are now working in rural areas (Section 4.5.2).

Rural Medical Bonded Placements (BMP) were first introduced in 2004 and, unlike RAMUS and MRBS, students taking up these places receive no financial support, and are required to work in a District of Workforce Shortage for up to six years after graduation. This bonded period can be reduced by up to three years if junior doctors do some of their pre-vocational or vocational training in a rural area (RA2–5). Since 2004, 17 cadets have held a BMP, proving an opportunity to experience rural practice as junior doctors in a supported environment.

6.3 Cadetship administration

6.3.1 Data management

RDN has administered the Cadetship Program on behalf of the NSW Ministry of Health (formerly NSW Department of Health) since 1993. During that time there has been a number of staff with primary responsibility for administering the program. There have also been significant changes in computer software and minor changes in the data being collected. The impact of these changes on data management could be minimised by developing one well-maintained database linked to the RDN workforce database. This database would include qualitative data collected during interviews with cadets, and data on career choice and practice location collected from former cadets.

RDN has developed a longitudinal evaluation framework for the Cadetship Program, consisting of:

- Collating demographic information collected from cadets during the application and selection process.
- Interviewing cadets at the completion of rural service or earlier if they choose to withdraw.
- Contacting ex-cadets twice within ten years of completing rural service to collate information on career choice and location of work. Cadets will be informed of the longitudinal evaluation at their exit interviews (including those who withdraw from the cadetship).

RDN has worked to streamline administration and make improvements based on participant feedback, and to maximise the number of cadetships offered each year by minimising administration overheads. RDN recommends that:

- RDN maintain one comprehensive database for all scholarship holders through RDN, which includes all applicants as well as successful scholarship holders and has links to the RDN general practice workforce database to track past scholarship holders going into rural practice and streamline data collection. (Recommendation 4.)
- Cadets (including those withdrawing from the cadetship) be asked to sign consent forms relating to future contact from RDN for longitudinal studies at the time of their exit interview. Alternatively, this could be incorporated into the contract. (Recommendation 5.)

6.3.2 Cadetship payment conditions

Consistent with the previous evaluation, a significant proportion of cadets felt disadvantaged compared to people holding other scholarships such as RAMUS, due to the tax applied to their cadetship payments and their ineligibility to claim the HECS

reimbursement during their period of rural service. The issue relating to tax has been nullified in recent years after the tax-free threshold was increased from $6,000 to $18,200 from 1 July 2012. Therefore, the cadetship income of $15,000 would not be subject to tax unless a cadet received more than $3,200 in additional income in the same year. Cadets remain ineligible to receive reimbursement under the Australian Government HECS Reimbursement Scheme while they are completing their return of service. RDN believes that this is an unintended consequence of having a number of policies, and is at odds with both federal and state initiatives to encourage Australian graduates into rural practice. RDN has in the past unsuccessfully lobbied the Australian Government Department of Health to change this situation. Despite the feedback from cadets citing their disadvantage in this regard, they are still at a financial advantage over other graduates who are eligible to begin claiming the HECS reimbursement in their first two postgraduate years. Cadets receive $30,000 over their final two years of study at a time when many are under financial pressure, then work for two years in an RA2 location. In comparison, non-cadets who receive no financial support while studying and chose to work in an RA2 location for two years after graduation would be entitled to a reimbursement of around $25,654 of their HECS debt.[41] Therefore, over a four-year period, despite not being able to claim the HECS reimbursement during their rural service, they are still financially better off than non-cadets. Additionally, once cadets complete their two-year period of rural service they can begin claiming the HECS reimbursement if they remain in a rural area.

6.4 Role of RDN in supporting cadets

Cadets make a significant contribution to the prevocational rural workforce in NSW and approximately half go on to work in non-metropolitan areas in Australia. It is important they feel supported during the time they spend as undergraduate cadets and junior doctors and that they receive appropriate training.

The previous evaluation found that some cadets felt they would have liked more support from RDN, particularly during their rural service years. RDN responded to this feedback by increasing contact with cadets, ensuring they are prepared for rural service and strengthening the role of rural service cadets as mentors for those at undergraduate level. There is an opportunity for all cadets to come together three times a year at two rural GP conferences and the Cadet Weekend. During these events rural service cadets share information and advice on each of the five hospitals and towns such as term rotations, accommodation options, attractions of the town, and vocational training. A Facebook group was set up in 2010 as an additional way of providing information and fostering communication between cadets. RDN also conducts site visits to rural service cadets at least once throughout the year where current and former cadets, as well as other local practitioners and representatives of training organisations, are invited to dinner. Increasingly, more undergraduate cadets are studying at a rural clinical school in the same areas and are invited to come along. During end of year visits to rural service cadets, RDN discuss with PGY1 cadets their progress. These conversations are informal in nature and do not utilise a pre-determined set of questions. It is recommended RDN formally interviews all cadets at this stage using a standardised questionnaire (Recommendation 6).

[41] National Tertiary Education Union, My Student Debt factsheet. Page available at: http://mystudentdebt.com.au/#sthash.9zVHAKTT.dpbs (accessed 21.8.14)

As recommended in the previous evaluation, RDN now notifies relevant Local Health Districts and Medicare Locals of cadets coming to work in their regions so that they can be linked into educational and networking activities where appropriate. Cadets relocating for rural service are also matched to a mentor who is a more senior cadet or ex-cadet at the same hospital. Feedback so far from cadets indicates this additional support has been useful and it is recommended RDN continue to match cadets beginning their rural service with mentors (Recommendation 7).

Additionally, cadets with partners and/or children are linked to the Rural Medical Family network (RMFN) who can provide practical and emotional support for the families of cadets. Although the overwhelming majority of cadets felt the period of rural service was an advantage in their career progression, a small number expressed concerns around access to training programs other than general practice. It is recommended that rural service cadets are further supported to achieve their career goals (Recommendation 8).

6.5 Access to rural service

The number of students graduating from Australian medical schools has increased significantly in recent years and, with four new medical schools established since 2007, it is not surprising that the biggest increase has occurred in NSW. In the five years from 2008 to 2012 the number of domestic medical graduates in NSW increased by 81.4%.[35] The success of the Cadetship Program relies on cadets being allocated as junior doctors to the rural hospital network to complete their rural service. RDN works closely with policy makers at HETI as well as the NSW Ministry of Health to maintain awareness of the needs of the Cadetship Program and to achieve the best possible outcomes for cadets. To date there has not been an issue, but with increasing numbers of medical students attending rural clinical schools and increasing competition for rural places, effective communication with stakeholders remains crucial.

To encourage vertical integration of medical education, it is recommended that RDN supports additional regional base hospitals applying for home hospital accreditation in locations where there are Rural Clinical Schools. This would enable junior doctors from Rural Clinical Schools to continue to work in the same location and continue to acquire the skills necessary for rural medicine. It would also provide more choices for cadets when choosing sites for their rural service (Recommendation 9).

7. Conclusion

The results of this evaluation demonstrate that the NSW Rural Resident Medical Officer Cadetship Program is meeting its objectives after 25 years of successful operation, and should continue. Since the program began in 1989, 211 junior doctors have worked for two years in the rural hospital network, almost twice as many as would have done so without the Cadetship Program. Seventy-two of those who accepted a cadetship before 2011 now work in non-metropolitan NSW, 45 as GPs or GP registrars, 24 as specialists or specialist trainees, and three as hospital doctors. The majority of former cadets would recommend the cadetship to other students, particularly if they have an interest in rural medicine. Undergraduate rural placements and scholarships such as the John Flynn Scholarship and RDN Bush Bursaries/CWA Scholarships also allow students to spend time in a rural area before applying for a cadetship. These opportunities are particularly beneficial for students with no rural experience.

In line with Australian Government initiatives such as RAMUS and MRBS, this evaluation has highlighted the need for support and mentoring of cadets to maintain their enthusiasm for rural medicine as a career choice. It has also highlighted the importance of the Cadetship Program as an effective pathway to introduce medical students from metropolitan areas to careers in rural health.

While the majority of former cadets working in non-metropolitan NSW are working in general practice, overall a slightly higher proportion of cadets work as specialists, almost all in metropolitan areas. Changes to training are occurring in a number of specialist colleges, with more opportunities to do at least some specialist training in non-metropolitan areas. Such initiatives can only benefit those cadets wishing to specialise and work in a rural area.

8. Appendixes

Appendix 1: Survey sent to 1989–2010 cadet cohorts

Section 1: Background

1. What is your name?

2. For each phase of your life, name the town (or nearest town) where you spent the majority of your time.
Early Childhood (<5 years of age)
Primary Schooling (5 - 12 years of age)
Secondary Schooling (13 - 16 years of age)
Senior Secondary (17 -18 years of age)

3. Do you consider yourself to come from a rural background? Yes/No

4. Does your partner come from a rural background? Yes/No

5. What type of place did you hold in medical school?
Commonwealth Supported Place (CSP or HECS)
Bonded Medical Place (BMP)
Rural Origin Entry (nonbonded)
Full Fee Paying place
Other (please specify)

Section 2: Other Scholarships and Rural Placements

6. In addition to the NSW Rural Resident Medical Officer Cadetship, did you receive any of the following bursaries or scholarships?
None
Bush Bursary/CWA Scholarship
Australian Defence Force Scholarship
John Flynn Scholarship
Working HUGS
New England North West Regional Development Board Medical Scholarship
Cotton Industry Medical Scholarship
Other (please specify)

7. Did you undertake any rural clinical placements, including time spent at a Rural Clinical School (RCS), as a medical student? Yes/No

8. Please list the rural placements you undertook as a medical student (in weeks) including time spent at a Rural Clinical School (RCS), placements associated with scholarships and compulsory rural placements
Town 1
Length of Placement 1
Year of degree placement was undertaken
Type of placement (BB/CWA, JFSS, RCS, compulsory)

Town 2
Length of Placement 2
Year of degree placement was undertaken

Type of placement (BB/CWA, JFSS, RCS, compulsory)

Town 3
Length of Placement 3
Year of degree placement was undertaken
Type of placement (BB/CWA, JFSS, RCS, compulsory)

Town 4
Length of Placement 4
Year of degree placement was undertaken
Type of placement (BB/CWA, JFSS, RCS, compulsory)

Section 3: Motivations for Applying for the Cadetship

9. Prior to applying for the Cadetship, what influences were important in fostering your interest in rural health? Please rank the following factors in terms of how they contributed to your interest in rural health

	Major Influence	Minor Influence	No Influence	Negative Influence
Rural background or exposure				
Rural placements				
Other scholarships				
Involvement in the Rural Health Club				
Supervisor/Lecturer				
Medical school in general				
Other (please specify)				

10. Did you select negative influence for any of the above? Yes/No

11. Please explain why any of the above factors were negative influences in fostering your interest in rural health

12. What factors influenced you to apply for the Cadetship? Please rank the following factors in terms of the influence on your decision to apply

	Major Influence	Minor Influence	No Influence	Negative Influence
Financial Support				
Advice from others				
Time spent at a Rural Clinical School				
Desire to undertake postgraduate training in a rural area				
Long-term intention to work in a rural area				
Improve chances of obtaining preferred intern position				
Wanted to be challenged/taken out of own comfort zone				
Other (Please specify)				

13. Did you select negative influence for any of the above? Yes/No

14. Please explain why any of the above factors were negative influences in your decision to apply for the Cadetship

Section 4: Rural Service

15. Did you withdraw from the Cadetship program prior to completing the two year rural service bond? Yes/No

16. If yes, please specify why
Carer commitments, family members/children
Partner's employment/study
Travel
Financial considerations
Career prospects, concern about obtaining a vocational training position
Prefer to stay in metropolitan location
Did not obtain position in preferred hospital
Other (please specify)

17. Did you choose to defer the commencement of your Rural Service until PGY2 or PGY3? Yes/No/Not Applicable

18. If yes, please indicate why
No option to complete PGY1 and/or PGY2 in rural location (graduated prior to accreditation of rural base hospitals)
Carer commitments, family members/children
Wanted to spend time in a metropolitan hospital as a junior doctor
Partner's employment/study
Not ready to relocate to a rural area at that stage
Career prospects, concern about obtaining a vocation training position
Financial considerations
Other (please specify)

19. Did you undertake a GP rotation outside the hospital during your rural service (e.g. PGPPP)?
Yes/No/Not Applicable
Comment

20. If you had not received a Cadetship as a medical student, would you still have applied for a position in a rural hospital during your postgraduate/prevocational training years? Please explain your answer
Yes/No/Not Applicable/Unsure
Comment

Section 5: Post Rural Service

21. After completing your rural service, did you remain working in the same area for any period of time? Yes/No/Not Applicable

22. If yes, for how long?
1 year
2 years
3 years

> 3 years
Please specify where (town and health facility)

23. If no, why did you leave?
Vocational training program
Partner's employment
Family considerations
Wanted to move to a metropolitan area
Not Applicable
Other (please specify)

24. Please list the details of your practise positions held since completing your rural service including Role (e.g. Hospital resident, GP Registrar, GP), Location (name of town/city) and Start and End Date.
Position 1: Role
Location
Start and End Date

Position 2: Role
Location
Start and End Date

Position 3: Role
Location
Start and End Date

Position 4: Role
Location
Start and End Date

Position 5: Role
Location
Start and End Date

Position 6: Role
Location
Start and End Date

25. How important was the Cadetship and period of Rural Service in influencing your career path in terms of choice of specialty? Please explain your answer
Very important/Somewhat important/Not important at all
Comment

26. How important was the Cadetship and period of Rural Service in influencing your interest in/decision to practise in a rural location? Please explain your answer
Very important/Somewhat important/Not important at all
Comment

27. Would you recommend the Cadetship to current medical students? Please specify your reasons
Yes/No/Unsure
Comment

28. If you undertook a long-term (year long) placement at a Rural Clinical School, has this influenced where you have chosen to work at any stage since you graduated from medical school? Please explain your answer
Yes/No/Unsure/Not Applicable
Comment

Section 6: Vocational Training

29. Have you commenced/completed a vocational training program?
Yes/No

30. If yes, please specify which training program

31. If yes, where did you undertake (or where are you still undertaking) your vocational training? (please name the town or city)

32. Did you have the option to complete all or some of your vocational training in a rural/regional location?
Yes/No/Not Applicable
Comment

33. If there was an option to complete all or some of your vocational training in a rural or regional location, would you have taken this opportunity?
Yes/No/Unsure
Comment

34. Are you currently working as a medical practitioner?
Yes/No
Comment

35. What is your current role?

36. Please name the town or city you predominately work in at the moment?

37. If you currently work in a metropolitan area, do you have any links with rural medicine (e.g. Outreach services, rural locums, education).
Yes/No/Not Applicable
Comment

38. If yes, please specify what links

39. Do you consent to RDN contacting you again in the future, at most once every two years to contribute to the ongoing longitudinal evaluation of the Cadetship Program?
Yes/No

Appendix 2: Survey sent to 2011–12 cadet cohorts

Section 1: Background

1. What is your name?

2. Do you consider yourself to come from a rural background? Yes/No

3. What type of place did you hold in medical school?
Commonwealth Supported Place (CSP or HECS)
Bonded Medical Place (BMP)
Rural Origin Entry (non-bonded)
Full-Fee Paying place
Other (please specify)

Section 2: Other Scholarships and Rural Placements

4. In addition to the NSW Rural Resident Medical Officer Cadetship, did you receive any of the following bursaries or scholarships?
None
Bush Bursary/CWA Scholarship
Australian Defence Force Scholarship
John Flynn Scholarship
Working HUGS
New England North West Regional Development Board Medical Scholarship
Cotton Industry Medical Scholarship
Other (please specify)

5. Please list the rural placements you undertook as a medical student (in weeks) including time spent at a Rural Clinical School (RCS), placements associated with scholarships and compulsory rural placements
Town 1
Length of Placement 1
Year of degree placement was undertaken
Type of placement (BB/CWA, JFSS, RCS, compulsory)

Town 2
Length of Placement 2
Year of degree placement was undertaken
Type of placement (BB/CWA, JFSS, RCS, compulsory)

Town 3
Length of Placement 3
Year of degree placement was undertaken
Type of placement (BB/CWA, JFSS, RCS, compulsory)

Town 4
Length of Placement 4
Year of degree placement was undertaken
Type of placement (BB/CWA, JFSS, RCS, compulsory)

Section 3: Motivations for Applying for the Cadetship

6. Prior to applying for the Cadetship, what influences were important in fostering your interest in rural health? Please rank the following factors in terms of how they contributed to your interest in rural health

	Major Influence	Minor Influence	No Influence	Negative Influence
Rural background or exposure				
Rural placements				
Other scholarships				
Involvement in the Rural Health Club				
Supervisor/Lecturer				
Medical school in general				
Other (please specify)				

7. Did you select negative influence for any of the above? Yes/No

8. Please explain why any of the above factors were negative influences in fostering your interest in rural health

9. What factors influenced you to apply for the Cadetship? Please rank the following factors in terms of the influence on your decision to apply

	Major Influence	Minor Influence	No Influence	Negative Influence
Financial Support				
Advice from others				
Time spent at a Rural Clinical School				
Desire to undertake postgraduate training in a rural area				
Long-term intention to work in a rural area				
Improve chances of obtaining preferred intern position				
Wanted to be challenged/taken out of own comfort zone				
Other (Please specify)				

10. Did you select negative influence for any of the above? Yes/No

11. Please explain why any of the above factors were negative influences in your decision to apply for the Cadetship

Section 4: Rural Service

12. Did you withdraw from the Cadetship program prior to completing the two year rural service bond? Yes/No

13. If yes, please specify why

Carer commitments, family members/children
Partner's employment/study
Travel
Financial considerations

Career prospects, concern about obtaining a vocational training position
Prefer to stay in metropolitan location
Did not obtain position in preferred hospital
Other (please specify)

14. Did you choose to defer the commencement of your Rural Service until PGY2 or PGY3? Yes/No/Not Applicable

15. If yes, please indicate why
No option to complete PGY1 and/or PGY2 in rural location (graduated prior to accreditation of rural base hospitals)
Carer commitments, family members/children
Wanted to spend time in a metropolitan hospital as a junior doctor
Partner's employment/study
Not ready to relocate to a rural area at that stage
Career prospects, concern about obtaining a vocation training position
Financial considerations
Other (please specify)

16. Have you undertaken a Prevocational General Practice Placement Program (PGPPP) term so far during your rural service?
Yes/No/Not Applicable
Comment

17. Do you intend on undertaking a Prevocational General Practice Placement Program (PGPPP) term during your rural service?
Yes/No/Unsure Not Applicable
Comment

18. If you had not received a Cadetship as a medical student, would you still have applied for a position in a rural hospital during your postgraduate/prevocational training years? Please explain your answer
Yes/No/Not Applicable/Unsure
Comment

19. Do you consent to RDN contacting you again in the future, at most once every two years to contribute to the ongoing longitudinal evaluation of the Cadetship Program?
Yes/No

Appendix 3: Survey sent to 2013–14 cadet cohorts

Section 1: Background

1. What is your name?

2. Do you consider yourself to come from a rural background? Yes/No

3. What type of place did you hold in medical school?
Commonwealth Supported Place (CSP or HECS)
Bonded Medical Place (BMP)
Rural Origin Entry (non-bonded)
Full-Fee Paying place
Other (please specify)

Section 2: Other Scholarships and Rural Placements

4. In addition to the NSW Rural Resident Medical Officer Cadetship, did you receive any of the following bursaries or scholarships?
None
Bush Bursary/CWA Scholarship
Australian Defence Force Scholarship
John Flynn Scholarship
Working HUGS
New England North West Regional Development Board Medical Scholarship
Cotton Industry Medical Scholarship
Other (please specify)

5. Please list the rural placements you undertook as a medical student (in weeks) including time spent at a Rural Clinical School (RCS), placements associated with scholarships and compulsory rural placements
Town 1
Length of Placement 1
Year of degree placement was undertaken
Type of placement (BB/CWA, JFSS, RCS, compulsory)

Town 2
Length of Placement 2
Year of degree placement was undertaken
Type of placement (BB/CWA, JFSS, RCS, compulsory)

Town 3
Length of Placement 3
Year of degree placement was undertaken
Type of placement (BB/CWA, JFSS, RCS, compulsory)

Town 4
Length of Placement 4
Year of degree placement was undertaken
Type of placement (BB/CWA, JFSS, RCS, compulsory)

Section 3: Motivations for Applying for the Cadetship

6. Prior to applying for the Cadetship, what influences were important in fostering your interest in rural health? Please rank the following factors in terms of how they contributed to your interest in rural health

	Major Influence	Minor Influence	No Influence	Negative Influence
Rural background or exposure				
Rural placements				
Other scholarships				
Involvement in the Rural Health Club				
Supervisor/Lecturer				
Medical school in general				
Other (please specify)				

7. Did you select negative influence for any of the above? Yes/No

8. Please explain why any of the above factors were negative influences in fostering your interest in rural health

9. What factors influenced you to apply for the Cadetship? Please rank the following factors in terms of the influence on your decision to apply

	Major Influence	Minor Influence	No Influence	Negative Influence
Financial Support				
Advice from others				
Time spent at a Rural Clinical School				
Desire to undertake postgraduate training in a rural area				
Long-term intention to work in a rural area				
Improve chances of obtaining preferred intern position				
Wanted to be challenged/taken out of own comfort zone				
Other (Please specify)				

10. Did you select negative influence for any of the above? Yes/No

11. Please explain why any of the above factors were negative influences in your decision to apply for the Cadetship

12. Do you consent to RDN contacting you again in the future, at most once every two years to contribute to the ongoing longitudinal evaluation of the Cadetship Program?
Yes/No