

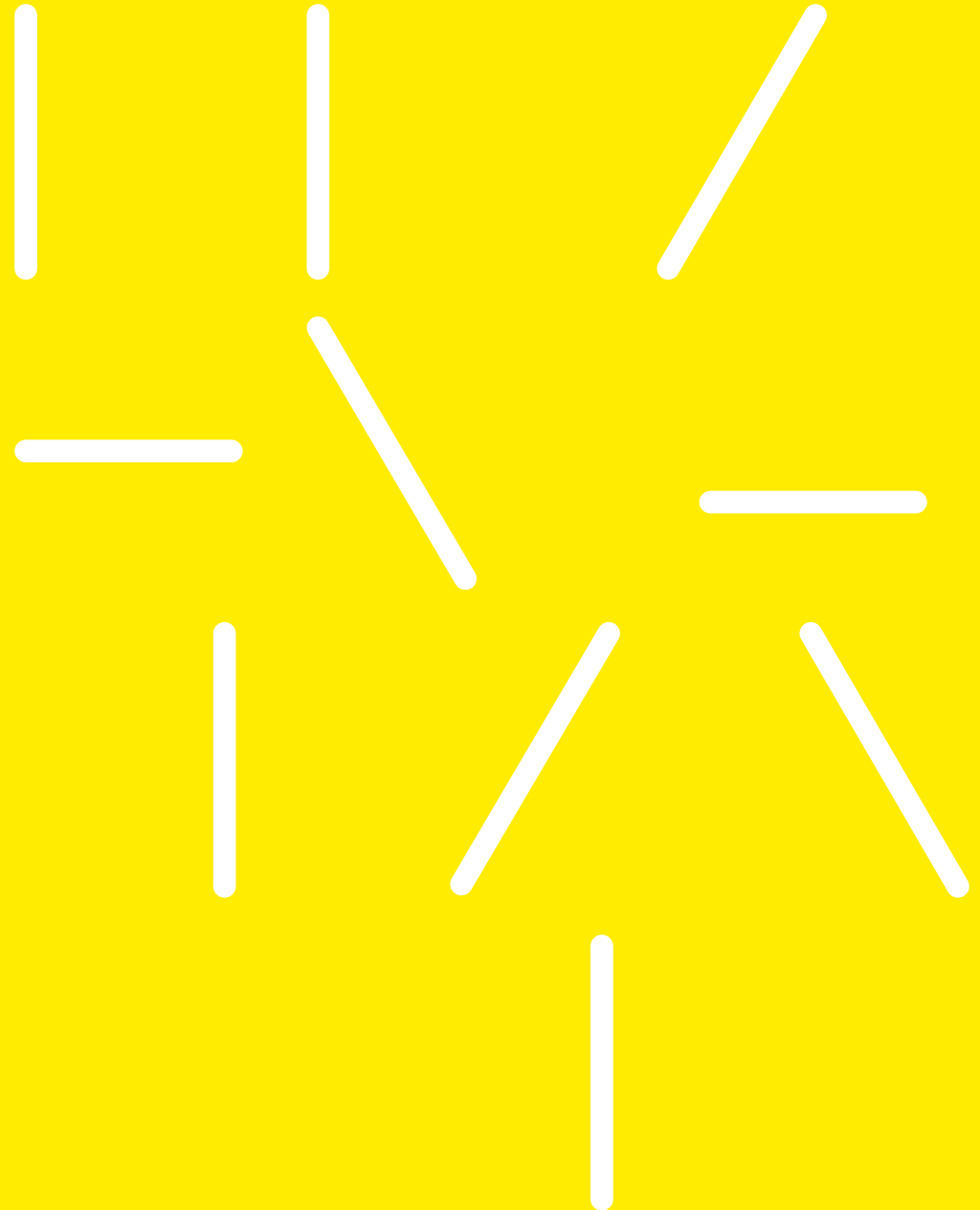


AUSTRALIAN GOVERNMENT
DEPARTMENT OF HEALTH

Review of ongoing Pharmacy Workforce Programs

FINAL REPORT

19 SEPTEMBER 2017





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ABBREVIATIONS AND GLOSSARY OF TERMS

3CPA	Third Community Pharmacy Agreement
4CPA	Fourth Community Pharmacy Agreement
5CPA	Fifth Community Pharmacy Agreement
6CPA	Sixth Community Pharmacy Agreement
AACP	Australian Association of Consultant Pharmacists
ABS	Australian Bureau of Statistics
ACCHO	Aboriginal Community Controlled Health Organisations
ACCHS	Aboriginal Community Controlled Health Services
AHPRA	Australian Health Practitioner Regulation Agency
AHS	Aboriginal Health Service
AIHW	Australian Institute of Health and Welfare
ARHEN	Australian Rural Health Education Network
ATSI	Aboriginal and Torres Strait Islander [people]
CPE	Continuing Professional Education
CHF	Consumers Health Forum of Australia
Department, the	The Australian Government Department of Health
FTE	Full-time equivalent
GP	General practitioner

Guild, The	The Pharmacy Guild of Australia
HMA	Healthcare Management Advisors
NACCHO	National Aboriginal Community Controlled Health Organisation
NHWDS	National Health Workforce Dataset
OHT	Oral health therapist
OT	Occupational therapist
PBS	Pharmaceutical Benefits Scheme
PhARIA	Pharmacy Access / Remoteness Index of Australia
PSA	Pharmaceutical Society of Australia
QUM	Quality use of medicines
QUMAX	Quality use of medicines maximised for Aboriginal and Torres Strait Islander People
RAAHS	Remote Area Aboriginal Health Service Program
RPLO	Rural Pharmacy Liaison Officer
RPMA	Rural Pharmacy Maintenance Allowance
SHPA	Society of Hospital Pharmacists of Australia
UDRH	University Department of Rural Health

EXECUTIVE SUMMARY

CONTEXT

The Australian Government Department of Health (the Department) engaged Healthcare Management Advisors (HMA) to evaluate the ongoing Pharmacy Workforce Package. These Package components are funded under the 6th Community Pharmacy Agreement (6CPA) between The Pharmacy Guild of Australia (The Guild) and the Department.

There were 12 components of the Pharmacy Workforce Package within the project scope. For the purposes of the evaluation, these programs were categorised into two groups:

- the *Rural Workforce Package*, which primarily seeks to target recruitment and retention activities in PhARIA 2 or higher locations (10 programs)
 - Rural Pharmacy Scholarship Scheme
 - Rural Pharmacy Scholarship Mentor Scheme
 - Intern Incentive Allowance for Rural Pharmacies
 - Intern Incentive Allowance for Rural Pharmacies – Extension Program
 - Rural Intern Training Allowance
 - Rural Pharmacy Student Placement Allowance
 - Administrative Support to Pharmacy Schools
 - Continuing Professional Educational Allowance
 - Rural Pharmacy Liaison Officer Program, and
 - Emergency Locum Service.
- the *Aboriginal and Torres Strait Islander Workforce Package*, which has no specific geographic focus (2 programs):
 - Aboriginal and Torres Strait Islander Pharmacy Assistant Traineeship Scheme, and
 - Aboriginal and Torres Strait Islander Pharmacy Scholarship Scheme.

The project involved a standard evaluation assessment of *appropriateness*, *effectiveness* and *efficiency* at both an individual program and a package level. This document is the final report of the evaluation. It is accompanied by two further volumes: a detailed evaluation analysis of each individual program (Volume 2); and technical papers (Volume 3), including the literature scan, survey results and interim project deliverables.

OVERVIEW OF THE PROGRAMS

The value of the 12 in-scope programs is small – around \$7.2m per annum or 4.1% of the 6CPA first year allocation to community pharmacy programs.

The 6CPA states that the Rural Workforce Package seeks to:

*‘fund a range of initiatives designed to **strengthen and support the rural pharmacy workforce**, in turn to provide increased access to quality pharmacy services for consumers residing in rural and remote regions of Australia’.*

The purpose of the Aboriginal and Torres Strait Islander Workforce Package is framed in similar terms. Its aims to:

*‘fund a range of initiatives designed to **strengthen and support the ATSI (sic) pharmacy workforce**, which in turn will provide improved, culturally-appropriate pharmacy services for ATSI (sic) consumers’.*

To assist with the evaluation, HMA categorised the 12 programs into four groups with similar characteristics:

- (1) Workforce recruitment programs
- (2) Workforce retention programs
- (3) Other workforce support programs, and

(4) Enhancing availability of culturally appropriate services.

Key findings relating the context of the programs are summarised in the following table.

SUMMARY OF KEY FINDINGS	
Key Finding 1:	The small funding allocation to Pharmacy Workforce Programs of \$7.2m over the five years of the 6CPA limits their capacity to support sizeable change in response to rural or Aboriginal and Torres Strait Islander workforce problems.
Key Finding 2:	If it is decided to continue with the Pharmacy Workforce Programs, in future there should be a clearer specification of their objectives, including a clear statement of why the programs are being implemented, what they are expected to realise over the life of a Community Pharmacy Agreement, and the target activity level they aim to realise.
Key Finding 3:	Expenditure data available to the evaluators found there was an under-spend on the Pharmacy Workforce Package in the years 2013–14 and 2014–15 of around 40%, suggesting the component programs did not get the resource allocation priority intended by the original 5CPA budget schedule.

METHOD

Data collection

HMA used a needs assessment based methodology to obtain relevant information on the program need, use and perceived benefits. The key stages were:

- Situation analysis to review program objectives, use and costs.

- PICO (Population, Intervention, Comparison, Outcome) analysis of program data and peer reviewed literature to assess program need and evidence base.
- Assess relative need through consultation with peak body stakeholders.
- Assess program outcomes through consultation with funding recipients and rural and remote pharmacists, face to face and via an online survey.
- Evidence synthesis using a data triangulation methodology to assess the appropriateness, effectiveness and efficiency of the programs individually and the Pharmacy Workforce Programs as a package.

This document represented the assessment of the Pharmacy Workforce Programs as a package. Detail on the findings for individual programs is available in the accompanying *Detailed Analysis of Workforce Programs* (Volume 2). Interim deliverables and data collection tools are available in the accompanying *Technical Paper* (Volume 3).

Data limitations

Pharmacy workforce data from the Department of Health Workforce Reform Branch was only available for the 2013–2015 period due to a change in the data collection format in 2012. The limited data set diminished the identification of workforce trends over time and the capacity to track the impact of workforce programs.

Individual program data including program participation, expenditure and budget was provided by The Guild. However, there were significant gaps in the data provided. For example, audited statements for each program were only available for the 2013–14 and 2014–15 financial years.

PROGRAM FINDINGS

The Pharmacy Workforce Package was evaluated for appropriateness, effectiveness and efficiency. The key findings are summarised here.

Appropriateness

An examination of a program's *appropriateness* seeks to ascertain:

the continued relevance and priority of program objectives in the light of current circumstances including government policy changes. [1]

The key findings of the appropriateness of the Pharmacy Workforce Program package are presented below.

SUMMARY OF KEY FINDINGS - APPROPRIATENESS	
Key Finding 4:	There was an overall increase of 5.8% in the number of pharmacists from 19,188 in 2013 to 20,297 in 2015.
Key Finding 5:	The distribution of pharmacist FTE rates (per 100,000 population) was skewed towards metropolitan areas. The latest available data showed the following community pharmacist FTE per 100,000 people in 2015: major cities – 54.5; inner regional – 52.2; outer regional – 50.4; remote 40.3; and very remote – 27.5.
Key Finding 6:	Based on the ongoing inequity of the pharmacist workforce distribution, it was concluded there is a continuing need for mechanisms to promote recruitment and retention of pharmacists in non-metropolitan areas, across all pharmacist types.
Key Finding 7:	Recruitment component programs are supported by moderate to strong evidence, as students with a rural origin or who have had exposure to rural practice are more likely to take up positions in rural areas. However, most literature focused on other health workforces and did not specifically support the appropriateness of delivery mechanisms (i.e. scholarships, placements) in encouraging rural practice.

SUMMARY OF KEY FINDINGS - APPROPRIATENESS

Key Finding 8:	Retention component programs are supported by moderate evidence. While the programs address key barriers experienced by pharmacists (i.e. access to interns, locums and CPE), there was limited evidence to support the mechanisms by which support was delivered (i.e. financial assistance to employ an intern).
Key Finding 9:	Due to the broad aims underpinning programs providing other support to the pharmacy workforce, the appropriateness of their design is difficult to assess. No literature exists to support the design of either program. However, both programs providing other supports facilitate rural student placements, which have strong support in the literature.
Key Finding 10:	PBS expenditure data showed that Aboriginal and Torres Strait Islander people have an ongoing need to increase their access to subsidised medicines.
Key Finding 11:	Alternative models of service delivery, in addition to / or as an alternative, may need to be considered to maximise access to PBS medicines in rural and remote locations.

Effectiveness

An examination of a program's *effectiveness* seeks to ascertain:

Whether program outcomes have achieved stated objectives [1].

The key findings of the effectiveness of the Pharmacy Workforce Program package are presented below.

SUMMARY OF KEY FINDINGS - EFFECTIVENESS	
Key Finding 12:	Around an extra 270 FTE of community pharmacists would be required for regional and remote areas to achieve parity with major cities.
Key Finding 13:	The workforce recruitment and retention components of the Rural Workforce Package involve approximately 21% of the community pharmacist market annually, or around 800 pharmacists.
Key Finding 14:	The evaluation concluded that the Rural Workforce Package components under the 5CPA were largely ineffective in strengthening the rural workforce at a macro level, evidenced by the static (inner and outer regional areas) and negative (remote areas) community pharmacist FTE rates per 100,000 people between 2013 and 2015.
Key Finding 15:	Workforce recruitment programs generally achieved their derived aims of supporting students and interns to undertake education, placements and training that increased their exposure to rural pharmacy practice. Some programs (i.e. the Scholarship Scheme) were found to have a tangible impact on the number of prospective new rural pharmacists. Some programs may increase intention to practise in a rural area but there is no clear evidence that the program actually increases recruitment.

SUMMARY OF KEY FINDINGS - EFFECTIVENESS	
Key Finding 16:	Retention component programs achieved their <i>derived aims</i> of reducing financial barriers to rural practice such as access to CPE, locums and interns. All programs were highly valued by the pharmacists who accessed them. However, the extent to which these programs prevented pharmacists leaving rural practice was not measurable and could not be isolated from other drivers of greater retention.
Key Finding 17:	Other support component programs generally achieved their <i>derived aims</i> . However, these aims remain broad and self-fulfilling. A majority of stakeholders involved in the delivery of the programs stated that the support programs were vital to supporting recruitment activities.
Key Finding 18:	Despite the overall growth in the number of Aboriginal and Torres Strait Islander pharmacists, the FTE rate per 100,000 Aboriginal and Torres Strait Islander population remained low, supporting a position that there is an ongoing need to have recruitment programs for Aboriginal and Torres Strait Islander pharmacy workforce.
Key Finding 19:	Distribution of the Aboriginal and Torres Strait Islander pharmacy workforce is skewed towards major cities and remote areas.

SUMMARY OF KEY FINDINGS - EFFECTIVENESS	
Key Finding 20:	Programs under the component addressing the availability of culturally appropriate services for Aboriginal and Torres Strait Islander people contributed to their aim of increasing the Aboriginal and Torres Strait Islander pharmacy workforce. However, it is unclear whether an increase in Aboriginal and Torres Strait Islander representation in pharmacy workforce will effectively enhance the availability of culturally appropriate services for Aboriginal and Torres Strait Islander communities.
Key Finding 21:	Wholesale changes to the Pharmacy Programs should be approached with caution. Although we found that the programs did not have any observable impact on strengthening the rural and remote pharmacy workforce levels, based on the available 2013–2015 data, there are other factors that must be considered in forming decisions about the future of the programs: the impacts of the current programs and their value to current and prospective recipients. An increase in the value of the grants could increase the incentives to take up the grants and promote larger shifts in the workforce into rural and remote areas.

Efficiency

An examination of a program's *efficiency* seeks to ascertain:

whether there are better ways of achieving these objectives [1], including consideration of expenditure and cost per output, project governance arrangements, and implementation processes. [2]

The key findings of the effectiveness of the Pharmacy Workforce Program package are presented below.

SUMMARY OF KEY FINDINGS - EFFICIENCY	
Key Finding 23:	The majority of program funding was directed to recruitment programs (38.1% of total Pharmacy Workforce Programs' expenditure), followed by retention programs (28.1% of expenditure), other workforce support programs (28.9% of expenditure) and programs to enhance availability of culturally appropriate services (4.9% of expenditure).
Key Finding 24:	In contrast to general practice and dentistry, there are no programs that incentivise existing pharmacists in major cities to relocate to rural and remote areas, or overseas trained pharmacists to work in non-metropolitan areas. Consideration could be given to introducing such programs to enhance recruitment rates to non-metropolitan areas.
Key Finding 25:	The funding for enhanced culturally appropriate services targeting Aboriginal and Torres Straits students and trainees was focussed solely on recruitment programs. This was reflected in the recruitment of new graduates to rural and remote areas, but there were no retention programs for this workforce category.
Key Finding 26:	There was insufficient data on programs aimed at increasing access to culturally appropriate pharmacy services to determine their impact on the rural and remote workforce. However, the Aboriginal and Torres Strait Islander Scholarship Scheme appeared to have contributed to modest growth in the Aboriginal and Torres Strait Islander pharmacist workforce.
Key Finding 27:	The estimated cost of administering both Pharmacy Workforce package components was within an acceptable range (under 30% of total program cost).

SUMMARY OF KEY FINDINGS - EFFICIENCY

Key Finding 28:	Pharmacists considered the most effective programs relative to cost were the Intern Incentive Allowance for Rural Pharmacies, the CPE Allowance and the RPLO Program.
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CONCLUSIONS

We found that the Pharmacy Workforce Package was ineffective at a macro level in reducing the underlying need for a strengthened workforce in rural and remote areas, evidenced by the static (inner and outer regional areas) and reduced (remote and very remote regional areas) pharmacist FTE rates per 100,000 people between 2013 and 2015.

The programs were more effective at a micro level – the impact on individual students and community pharmacists. There are around 270 new recipients of direct support annually via the recruitment support programs and 500 recipients annually of direct support via workforce retention grants. The evaluation survey responses and consultation feedback suggest that an overwhelming majority of these recipients valued the grant monies received and acknowledged that it informed their decisions about career planning.

Based on these observation, we suggest that wholesale changes to the Pharmacy Workforce Programs should be approached with caution. Although we found that the programs did not have any observable impact on strengthening the rural and remote pharmacy workforce levels, there are other factors that must be considered

in forming decisions about the future of the program: the impacts of the current programs and their value to current and prospective recipients. An increase in the value of the grants could increase the incentives to take-up the grants and promote larger shifts in the workforce into rural and remote areas.

Programs supporting increased access to culturally appropriate services for Aboriginal and Torres Strait Islander people were more challenging to evaluate and should not be limited to workforce growth or rural and remote locations.

Based on the evaluation findings of the individual programs and of the overall impact of the package components, we describe four potential options for future development:

- **Option 1:** keep existing programs with minor modifications to improve their functionality
- **Option 2:** remove Pharmacy Accessibility Remoteness Index (PhARIA) 1 restrictions to existing programs to improve the Pharmacy Workforce Program's reach in regional areas
- **Option 3:** undertake a moderate restructure to include additional workforce program types, whilst retaining some or all of the existing programs, or
- **Option 4:** undertake a major restructure to cease all existing program and use funds to enhance the level of workforce support pharmacists in targeted geographic areas (possibly prioritised on the basis of rurality).

PART A

CONTEXT

1 INTRODUCTION

1.1 BACKGROUND

The Australian Government Department of Health (the Department) engaged Healthcare Management Advisors (HMA) to evaluate the ongoing Pharmacy Workforce Programs. These programs are funded under the 6th Community Pharmacy Agreement (6CPA) between The Pharmacy Guild of Australia (The Guild) and the Department.

1.2 INDIVIDUAL PROGRAMS WITHIN SCOPE

The Pharmacy Workforce Programs within the project scope are listed in the following sections. There are 12 of these programs. For the purposes of the evaluation, these programs were categorised into two groups:

- the *Rural Workforce Package*, which primarily seeks to target recruitment and retention activities in PhARIA 2¹ or higher locations (10 programs), and
- the *Aboriginal and Torres Strait Islander Workforce Package*, which has no specific geographic focus (2 programs).

Not all workforce programs, or programs related to medicines access within community pharmacies by people in non-metropolitan areas or Aboriginal and Torres Strait Islander people, were within the evaluation scope. Out of scope programs are also listed in the following sub-sections.

This scope boundary has important implications; it means that changes to any of the 12 programs must also consider knock-on effects to the out-of-scope programs.

¹ PhARLA is a composite index incorporating the geographic distance from major cities determined by the Accessibility / Remoteness Index for Australia (ARLA) and a professional isolation component represented by the road distance to the five closest pharmacies.

[8]

The specific objectives of the 12 in-scope programs are examined in more detail in Chapter 2 of the report.

1.2.1 Rural Workforce Package

Rural Workforce Package programs within the evaluation scope were the following:

- Rural Pharmacy Scholarship Scheme
- Rural Pharmacy Scholarship Mentor Scheme
- Intern Incentive Allowance for Rural Pharmacies
- Intern Incentive Allowance for Rural Pharmacies – Extension Program
- Rural Intern Training Allowance
- Rural Pharmacy Student Placement Allowance
- Administrative Support to Pharmacy Schools
- Continuing Professional Educational Allowance
- Rural Pharmacy Liaison Officer Program, and
- Emergency Locum Service.

There is one further workforce program funded under the 6CPA that was not within the evaluation scope – the Rural Pharmacy Workforce Allowance.

1 INTRODUCTION

1.2.2 Aboriginal and Torres Strait Islander Workforce Package

The two Aboriginal and Torres Strait Islander programs within the scope of this evaluation were:

- Aboriginal and Torres Strait Islander Pharmacy Assistant Traineeship Scheme, and
- Aboriginal and Torres Strait Islander Pharmacy Scholarship Scheme.

Aboriginal and Torres Strait Islander 6CPA-specific programs not within the scope of this evaluation were:

- QUMAX – Quality use of medicines maximised for Aboriginal and Torres Strait Islander People, and
- S100 Pharmacy Support Allowance.

1.3 EVALUATION SCOPE

Under the terms of the RFQ, the project was originally intended to *undertake a cost-effectiveness assessment*. The specification of a cost-effectiveness assessment was consistent with the requirements of review processes stated in Clause 6.1.3 of the 6CPA. However, in discussions between the Department and HMA at the time of the project commencement, it was agreed that the nature of data available on the in-scope programs would not enable a true cost-effectiveness study. Therefore, it was agreed the project would undertake a standard evaluation assessment of *appropriateness, effectiveness and efficiency* at both an individual program and a package level.

A needs assessment approach was used to inform data collection processes for the evaluation. These processes are detailed in Chapter 3.

It is important to note that, while the broad objective of the Rural Pharmacy Workforce Programs is to increase the number of pharmacists servicing rural communities, the drivers for pharmacists to move into or away from rural practice

are complex. Barriers to rural practice that can be addressed by government-funded workforce programs can include financial disincentives associated with non-metropolitan practice. However, other barriers that may be influenced by attitudes and behaviours are less amenable to influence by a program intervention, such as the influence of partners and family on where pharmacists wish to practise. This is particularly relevant given the majority of pharmacists are women (59%), who are more likely to follow their partner's work location if they take parental leave or rely on their partner's income. [3]

Examination of such drivers is beyond the scope of the current review. But their impact on rural workforce recruitment and retention is significant and must be considered alongside the analysis presented in this paper.

1.4 DOCUMENT PURPOSE AND STRUCTURE

The purpose of the *Final Report* (this document, also referred to as Volume 1) is to summarise the evaluation findings for the Rural Workforce programs and the Aboriginal and Torres Strait Islander Workforce programs at a package level. This includes analysis of the packages' appropriateness, effectiveness and efficiency.

The Final Report is structured as follows:

- Part A: Context
 - Chapter 2: Overview of the programs
 - Chapter 3: Methodology
- Part B: Findings
 - Chapter 4: Appropriateness
 - Chapter 5: Effectiveness
 - Chapter 6: Efficiency
 - Chapter 7: Conclusion and options for future development, and
 - Chapter 8: Appendices.

1 INTRODUCTION

The package level analysis was made possible by evaluation findings at a detailed program level for each of the 12 programs, contained in the *Detailed Analysis of Workforce Programs* (Volume 2).

Data collection tools and reports, including the literature review, are included in the *Technical Paper* (Volume 3).

2 OVERVIEW OF THE PROGRAMS

2.1 CONTEXT

The 6CPA specifies that community pharmacy programs under the Agreement have an ‘indicative allocation’ of \$177.3m in the first year. This includes provision for \$6.9m for the *Rural Workforce Package* and \$0.3m for the *Aboriginal and Torres Strait Islander Workforce Package*.

In the context of the 6CPA, HMA observes that the value of the 12 in-scope programs is small - \$7.2m or 4.1% of 6CPA community pharmacy program allocations. We consider this resource allocation potentially limits the capacity of the programs to facilitate significant change in response to problems. Whether this level of funding is suitable depends on an assessment of program funding adequacy relative to the size of the underlying problem. We will return to this question in our assessment of the programs’ appropriateness (see Chapter 4) and effectiveness (see Chapter 5).

Key Finding 1:	The small funding allocation to Pharmacy Workforce Programs of \$7.2m over the five years of the 6CPA limits their capacity to support sizeable change in response to rural or Aboriginal and Torres Strait Islander workforce problems.
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2.2 PROGRAM OBJECTIVES AND PROGRAM AIMS

Evaluation of any program is enhanced by the clear articulation of its objectives. Program performance is then tested against these objectives by an assessment of appropriateness, effectiveness and efficiency. A suitable program objective for any public policy intervention has the following features. It is:

- Specific, including a statement of ‘who’, ‘what’, ‘where’ and ‘why’

- Measurable: focuses on ‘how much’ change is expected
- Achievable: realistic given program resources and planned implementation, and
- Time-bound: focuses on ‘when’ the objective will be achieved

Based on our review of the program documentation, we consider there are limitations to the Pharmacy Workforce Program objectives.

The 6CPA states that the Rural Workforce Package seeks to:

*‘fund a range of initiatives designed to **strengthen and support the rural pharmacy workforce, in turn to provide increased access to quality pharmacy services for consumers residing in rural and remote regions of Australia**’.*

[HMA bolding]

The purpose of the Aboriginal and Torres Strait Islander Workforce Package is framed in similar terms. Its aims to:

*‘fund a range of initiatives designed to **strengthen and support the ATSI (sic) pharmacy workforce, which in turn will provide improved, culturally-appropriate pharmacy services for ATSI (sic) consumers**’.*

[HMA bolding]

These provisions of the 6CPA are reasonable specifications of goals; they are broad statements of the long-term expectation of both Packages. Ideally these wide-ranging goals would be supported by more specific objectives at a program level, which describe the results to be achieved through the intervention, but this is not the case. Each of the 12 individual workforce programs has a *Program Specific Guideline* that describes rules for the operation of the program. But they do not contain a specific statement about the objectives or aims for the program. The closest each Guideline comes to this is in the background section, which includes a statement about what the program seeks to do. We have termed these statements

2 OVERVIEW OF THE PROGRAMS

derived aims, because they have had this label applied by HMA, rather than the Program Guidelines. These derived aims are summarised in Table 2.1.

Table 2.1: Derived Program aims, paraphrased from the Program Specific Guidelines (a)

Package component	Derived Aim (extracted from the <i>Background</i> section of each relevant <i>Program Guideline</i>)
Rural Workforce Package program components	
Rural Pharmacy Scholarship Scheme	Enable students from rural and remote communities to undertake studies in pharmacy at university.
Rural Pharmacy Scholarship Mentor Scheme	Provide mentoring to students from rural and remote communities and to Aboriginal and Torres Strait Islander students undertaking studies in pharmacy at university.
Intern Incentive Allowance for Rural Pharmacies	Enable rural and remote community pharmacies to engage pharmacy interns and new graduates in their intern and post intern year.
Intern Incentive Allowance for Rural Pharmacies – Extension Program	
Rural Intern Training Allowance	Reduce the additional costs incurred by intern pharmacists practising in rural and remote communities to undertake compulsory training.
Rural Pharmacy Student Placement Allowance	Financial assistance is provided to students for costs incurred for travel and accommodation associated with rural placements.
Administrative Support to Pharmacy Schools	Provide financial support to pharmacy schools to facilitate rural placements for students.
Continuing Professional Education Allowance	Reduce the additional costs incurred by pharmacists practising in rural and remote communities undertaking professional development and training.
Rural Pharmacy Liaison Officer Program	Support practising rural community pharmacies and pharmacy students [via grants to University Departments of Rural Health] by: supporting rural placements; promoting inter-professional collaboration; strengthening mentoring and advisory arrangements; and facilitating professional development and networking opportunities.

Package component	Derived Aim (extracted from the <i>Background</i> section of each relevant <i>Program Guideline</i>)
Emergency Locum Service	Support rural and remote communities to retain access to community pharmacy services at all usual times [via the organisation of locums]
Aboriginal and Torres Strait Islander Workforce Package program components	
Aboriginal and Torres Strait Islander Pharmacy Scholarship Scheme	Enable Aboriginal and Torres Strait Islander students to undertake pharmacy studies at university.
Aboriginal and Torres Strait Islander Pharmacy Assistant Traineeship Scheme	Encourage and support Aboriginal and Torres Strait Islander people to become trained as pharmacy assistants and pharmacy technicians.

(a) This paraphrased version from the background section of each of the Program Guidelines seeks to facilitate an overview and comparison across the programs. The full statement of the wording from each of the Program Guidelines is given in Attachment A.

HMA was not provided with any other documentation during the course of the evaluation that gave a more comprehensive specification of the objective for the in-scope programs. Examination of the derived aims in Table 2.1 shows their limitation; **they are specific as to ‘who’ is being targeted** – generally a mixture of undergraduate students, and practising community pharmacists, and **‘where’** – the majority target rural and remote communities (generally defined as PhARIA 2 and above locations), but **they provide no statements about ‘why’, measurability, or time-based targets.**

2 OVERVIEW OF THE PROGRAMS

Key Finding 2: If it is decided to continue with the Pharmacy Workforce Programs, in future there should be a clearer specification of their objectives, including a clear statement of why the programs are being implemented, what they are expected to realise over the life of a Community Pharmacy Agreement, and the target activity level they aim to realise.

2.3 PROGRAM CATEGORISATION FOR EVALUATION PURPOSES

In the absence of clearly defined program objectives, and to assist with the evaluation, HMA categorised the ten Rural Workforce Package component programs and the two Aboriginal and Torres Strait Islander Workforce Package component programs into four groups with similar characteristics. Figure 2.1 illustrates the allocation of each program by the common characteristic of what they are seeking to realise. These categories are:

- (1) **Workforce recruitment programs:** supporting the recruitment of new pharmacists into the rural workforce through programs targeting students and interns.
- (2) **Workforce retention programs:** supporting the retention of existing rural pharmacists.
- (3) **Other workforce support programs:** providing support to the broader rural pharmacy workforce including students, pharmacy schools and practising pharmacists, delivered via funding available to twelve University Departments of Rural Health (UDRH), and Pharmacy Schools.
- (4) **Enhancing availability of culturally appropriate services:** improving access to culturally appropriate pharmacy services by increasing the number of Aboriginal and Torres Strait Islander people within the pharmacy workforce.

Figure 2.1: Pharmacy Workforce Package, grouped by characteristics

Rural Workforce Package components			Aboriginal and Torres Strait Islander Workforce Package components
Workforce recruitment programs	Workforce retention programs	Other workforce support programs	Culturally appropriate service programs
1. Rural Pharmacy Scholarship Scheme	5. Intern Incentive Allowance for Rural Pharmacies	9. Rural Pharmacy Liaison Officer Program	11. Aboriginal and Torres Strait Islander Pharmacy Assistant Traineeship Scheme
2. Rural Pharmacy Scholarship Mentor Scheme	6. Intern Incentive Allowance for Rural Pharmacies - Extension Program	10. Administrative Support to Pharmacy Schools	12. Aboriginal and Torres Strait Islander Pharmacy Scholarship Scheme
3. Rural Pharmacy Student Placement Allowance	7. Continuing Professional Education Allowance		
4. Rural Intern Training Allowance	8. Emergency Locum Service		

2.4 EXPENDITURE AND ACTIVITY BY PROGRAM: SUMMARY

Table 2.2 summarises the estimated average annual expenditure for 2013–14 and 2014–15 by program and program category. It also gives the activity levels by program. The table shows that the individual programs are quite small, when measured in terms of both expenditure and activity levels. The table also shows the split of resources across the four categories of program, based on averaged 2013–14 and 2014–15 expenditure, as follows:

- (1) **Workforce recruitment programs:** an average of \$1.76m per annum or 38% of Pharmacy Workforce Expenditure (averaged across 2013–14 and 2014–15)
- (2) **Workforce retention programs:** an average of \$1.32m per annum or 28% of expenditure
- (3) **Other workforce support programs:** an average of \$1.36m per annum or 29% of expenditure, and
- (4) **Enhancing availability of culturally appropriate services:** an average of \$0.23 m per annum or 5% of expenditure.

2 OVERVIEW OF THE PROGRAMS

Table 2.2: Average Annual Expenditure (across 2013–2015) and Activity Levels by Pharmacy Workforce Program

Package component	Estimated Annual Expenditure \$m, (averaged across 2013–2015)	Proportion of program as part of overall package	Activity Volumes	
			Measure of activity	2015–16 Activity (b)
Rural Workforce Package				
Workforce recruitment programs				
Rural Pharmacy Scholarship Scheme	\$1.04m		Scholarships (no.)	91
Rural Pharmacy Scholarship Mentor Scheme			Mentorships (no.)	91
Rural Pharmacy Student Placement Allowance	\$0.67m		Universities supported (no.)	16
Rural Intern Training Allowance	\$0.08m		Travel allowance payments (no.)	157
<i>Sub-total: Workforce recruitment programs</i>	<i>\$1.79m</i>	<i>38%</i>		
Workforce retention programs				
Intern Incentive Allowance for Rural Pharmacies	\$0.86m		Internships (no.)	65.5
Intern Incentive Allowance for Rural Pharmacies – Extension Program			Graduates involved – numbers employed	10
Continuing Professional Education Allowance			Travel allowance payments (no.)	329
Emergency Locum Service	\$0.46m		Travel allowance payments (to cover locum costs)	85
<i>Sub-total: Workforce retention programs</i>	<i>\$1.32m</i>	<i>28%</i>		
Other workforce support programs				
Administrative Support to Pharmacy Schools			Universities supported (no.)	16
Rural Pharmacy Liaison Officer Program [^]	\$1.36m		Number employed at UDRHs	10
<i>Sub-total: Other workforce support programs</i>	<i>\$1.36m</i>	<i>29%</i>		
Aboriginal and Torres Strait Islander Workforce Package components				
Aboriginal and Torres Strait Islander Pharmacy Scholarship Scheme			Scholarships (no.)	6.5
Aboriginal and Torres Strait Islander Pharmacy Assistant Traineeship Scheme	\$0.23m		Pharmacy Assistant Traineeships (no.)	14
<i>Sub-total: Enhancing availability of culturally appropriate services</i>	<i>\$0.23m</i>	<i>5%</i>		
Total	\$4.7m per annum,	100%		

[^] Volumes for the Rural Pharmacy Liaison Officer Program based on 2012 data. Program data was often provided in calendar years and was recalculated to yield volumes by financial year.

Expenditure estimates are based on audited statements made available by The Department. Audited statements were only available for the 2013-14 and 2014-15 financial years. Expenditure was averaged across both financial years to smooth variations in program expenditure between years.

2 OVERVIEW OF THE PROGRAMS

It is noteworthy that average annual expenditure for the two financial years that data was available to HMA was \$4.7m (2013–15). The indicative budget allocations in the Schedule to the 5CPA implied an annual allocation to the programs of \$8.1m per annumⁱⁱ, implying a significant under-spend.

Key Finding 3:	Expenditure data available to the evaluators found there was an under-spend on the Pharmacy Workforce Package in the years 2013–14 and 2014–15 of around 40%, suggesting the component programs did not get the resource allocation priority intended by the original 5CPA budget schedule.
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We return to an examination of possible reasons for this under-spend in Chapter 6.

ⁱⁱ \$8.1m per annum was the allocated budget in the 5CPA. In the 6CP, the allocated budget per annum for the Pharmacy Workforce Package was \$7.2m per annum.

3 METHODOLOGY

3.1 PROJECT APPROACH AND TIMING

The project was conducted in seven stages from August 2016 to August 2017, as follows:

- **Stage 1: Project set-up.** HMA scheduled an initial ‘kick-off’ meeting with the Department project manager to discuss and finalise the proposed methodology and key deliverable dates.
- **Stage 2: Situation analysis.** This stage involved a review of available program documentation to develop a broad understanding of program volume, value, funding and aims.
- **Stage 3: PICO (Population, Intervention, Comparison, Outcome) analysis.** Using information obtained in previous stages and peer reviewed literature, HMA developed descriptions of each program, guided by the PICO framework.
- **Stage 4: Part One – Assess relative need.** This stage involved consultation with program administrators and review of comparative pharmacy and other health-related workforce program data.
- **Stage 5: Part Two – Assess outcomes and evaluate.** This stage involved identification and analysis of current data and evidence for each program, and consultation with peak bodies, relevant stakeholders and recipients and beneficiaries of the programs.
- **Stage 6: Evidence synthesis.** Using a data triangulation methodology, HMA prepared an analysis assessing the appropriateness, effectiveness and efficiency of each program.
- **Stage 7: Final report preparation.** HMA prepared a final report (this document) summarising the evidence and the review findings and incorporating feedback from the Department.

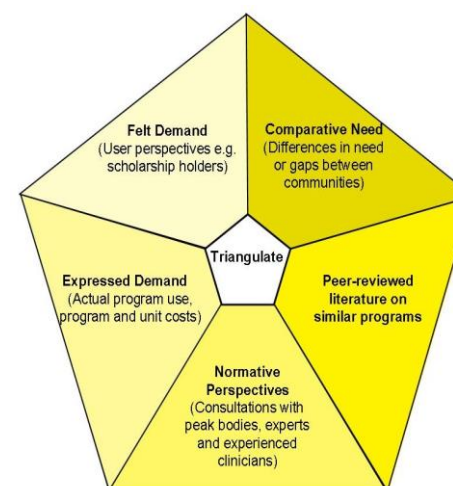
3.2 DATA COLLECTION METHODS

Data collection for the evaluation was informed by a needs assessment framework, in line with the requirements of the project brief, which said the consultant must

‘investigate the relative need for the programs to target the current program outcomes, including determining the level of relative need for the program when compared to similar programs for other health workforces; and determining the level of relative need for the program when compared to the pharmacy workforce as it currently stands.’

Based on this approach, data was collected to inform the assessment of five dimensions of need, illustrated in Figure 3.1.

Figure 3.1: Five dimensions of health need



3 METHODOLOGY

The assessment of needs was informed by the following data collection techniques:

- (1) **Peer-reviewed literature on similar programs (to guide assessment of epidemiological need):** we conducted a rapid literature search of Google Scholar and PubMed, and academic journals including the *Australian Journal of Rural Health* and *Rural and Remote Health*. The literature search included non-peer reviewed literature and grey literature (e.g. government reports) where appropriate. The literature was incorporated into the PICO descriptions of each program.
- (2) **Expressed demand:** data was collected on program activity levels and expenditure. Unit costs were derived from program data provided by The Guild. This included, program participation reports and spreadsheets and audited financial statements. This analysis was included in the unit cost paper and the relative needs assessment undertaken for Part One of the project methodology.
- (3) **Comparative need:** workforce and population data was collected and analysed to reveal trends in rural pharmacy workforce compared to other professional disciplines. Workforce data was provided by the Pharmacy Board of Australia and the Department of Health Workforce Reform Branch. Population data was derived from the Australian Bureau of Statistics (ABS). This analysis was included in the relative needs assessment undertaken for Part One of the project methodology.
- (4) **Normative perspectives:** program administrators and key peak body stakeholders were consulted to identify the need for the programs, their benefit and potential implementation issues. Consultations were undertaken with representatives of the following organisations:
 - (a) Australian Association of Consultant Pharmacists (AACCP)
 - (b) National Aboriginal Community Controlled Health Organisation (NACCHO)
 - (c) Australian Rural Health Education Network (ARHEN)
 - (d) The Pharmacy Guild of Australia (The Guild)
 - (e) Pharmaceutical Society of Australia (PSA)

- (f) Consumers Health Forum of Australia (CHF), and
- (g) Society of Hospital Pharmacists of Australia (SHPA).

- (5) **Felt demand:** recipients and intended beneficiaries of select programs were consulted through face-to-face site visits to UDRHs and web-based surveys. Both consultation activities sought feedback from pharmacy students, scholarship holders, interns, pharmacists practising in rural areas, university support staff and Rural Pharmacy Liaison Officers (RPLOs).

More information on the deliverables produced during the project are included in the *Technical Paper*.

3.3 DATA LIMITATIONS

Several issues were encountered during data collection and analysis around data availability, completeness and transparency.

Audited statements: limitations

Analysis of available program data and expenditure provided by The Guild revealed variations in program participation rates, allocated budget and expenditure each year. However, program data did not provide any information on program-level changes such as changes to program eligibility or funding which may account for annual variations. Furthermore, it was not clear from previous Agreements how the Package budgets were divided between the 12 individual programs.

Individual program data including program participation, expenditure and budget was provided by The Guild. However, there were significant gaps in the data provided. For example, audited statements for each program were only available for the 2013–14 and 2014–15 financial years. These gaps limited the analyses and conclusions that could be drawn, particularly from an efficiency perspective.

Workforce data: lack of historical trendline data

Pharmacy workforce data from the Department of Health Workforce Reform Branch was only available for the 2013–2015 period due to a change in the data

3 METHODOLOGY

collection format in 2012. The limited data meant it was not possible to track the impact of workforce programs over a long timeframe; ideally this would have been possible over the term of the Pharmacy Workforce Programs' operations, from commencement of the 3CPA to the conclusion of the 5CPA.

Calculation of program unit costs: limitations in determining the overhead component

The Guild budget allocated for administering the programs was pooled for both the Rural Pharmacy Workforce Programs and the Aboriginal and Torres Strait Islander Pharmacy Workforce Programs. It was not clear from this data what proportion of administration overhead costs were allocated to each individual program. In lieu of undertaking a detailed management accounting survey, HMA (with support from The Guild officials) allocated a proportion of the administration overhead budget pool to each program using program activity volumes as a proxy for administrative effort involved in each program. The direct costs of program service delivery were clear from the audited statements, but these methodological limitations for calculating overheads at a program level (around 10% of the overall program costs) meant the overheads were less definitive at an individual program level.

Comparison of FTE across geographic areas

In the analysis that follows we make extensive use of rates of pharmacist full-time equivalent amounts (FTEs) by population level. These rates must be interpreted cautiously when comparing pharmacist FTE availability across different geographic categories. The availability of other pharmacy programs designed to increase access to PBS medicines in remote areas (S100 and QUMAX programs) partially offsets the need for FTE to be physically located in remote locations.

Acknowledging these limitations, important observations can still be made regarding the underlying need for Pharmacy Workforce Programs to address community pharmacist availability outside major cities.

PART B

FINDINGS

4 APPROPRIATENESS

An examination of a program's *appropriateness* seeks to ascertain:

the continued relevance and priority of program objectives in the light of current circumstances including government policy changes. [1]

To assess appropriateness for this evaluation we examined the Rural Workforce Package and the Aboriginal and Torres Strait Islander Workforce Package separately.

Appropriateness for the Rural Workforce Package (see Section A below) examined:

- evidence on the availability of pharmacists by geographic location across Australia for an assessment of underlying need, and
- appropriateness of the program design at a package level in responding to that underlying need.

Appropriateness for the Aboriginal and Torres Strait Islander Workforce Package (see Section B below) examined:

- evidence about the underlying need for Aboriginal and Torres Strait Islander people to increase their access to medicines in the community, and
- the appropriateness of the Package in responding to that underlying need.

KEY FINDINGS ON APPROPRIATENESS

The key findings of the evaluation on appropriateness are summarised in the following table.

SUMMARY OF KEY FINDINGS	
Key Finding 4:	There was an overall increase of 5.8% in the number of pharmacists from 19,188 in 2013 to 20,297 in 2015.

SUMMARY OF KEY FINDINGS	
Key Finding 5:	The distribution of pharmacist FTE rates (per 100,000 population) was skewed towards metropolitan areas. The latest available data showed the following community pharmacist FTE per 100,000 people in 2015: major cities – 54.5; inner regional – 52.2; outer regional – 50.4; remote 40.3; and very remote – 27.5.
Key Finding 6:	Based on the ongoing inequity of the pharmacist workforce distribution, it was concluded there is a continuing need for mechanisms to promote recruitment and retention of pharmacists in non-metropolitan areas, across all pharmacist types.
Key Finding 7:	Recruitment component programs are supported by moderate to strong evidence, as students with a rural origin or who have had exposure to rural practice are more likely to take up positions in rural areas. However, most literature focused on other health workforces and did not specifically support the appropriateness of delivery mechanisms (i.e. scholarships, placements) in encouraging rural practice.
Key Finding 8:	Retention component programs are supported by moderate evidence. While the programs address key barriers experienced by pharmacists (i.e. access to interns, locums and CPE), there was limited evidence to support the mechanisms by which support was delivered (i.e. financial assistance to employ an intern).

4 APPROPRIATENESS

SUMMARY OF KEY FINDINGS	
Key Finding 9:	Due to the broad aims underpinning programs providing other support to the pharmacy workforce, the appropriateness of their design is difficult to assess. No literature exists to support the design of either program. However, both programs providing other supports facilitate rural student placements, which have strong support in the literature.
Key Finding 10:	PBS expenditure data showed that Aboriginal and Torres Strait Islander people have an ongoing need to increase their access to subsidised medicines.
Key Finding 11:	Alternative models of service delivery, in addition to / or as an alternative, may need to be considered to maximise access to PBS medicines in rural and remote locations.

APPROPRIATENESS ANALYSIS

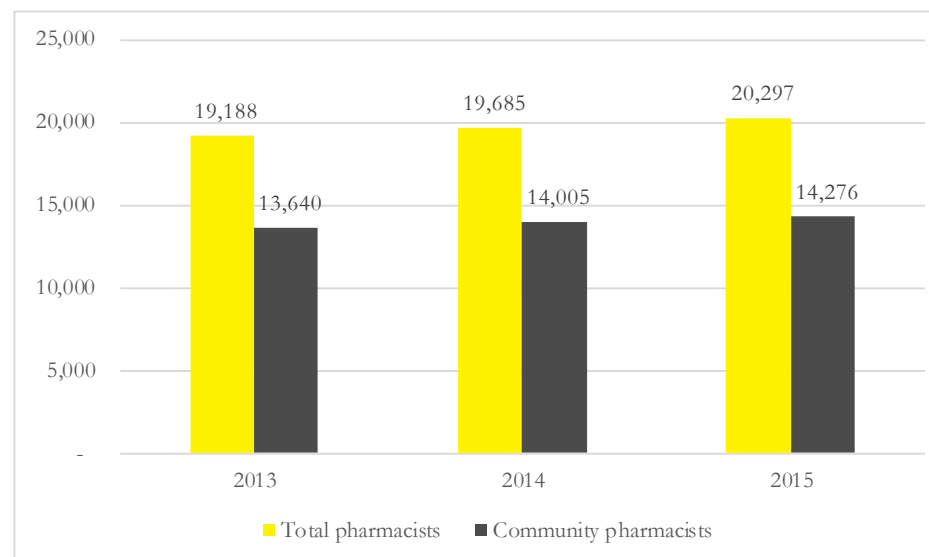
SECTION A: RURAL PHARMACY WORKFORCE PACKAGE APPROPRIATENESS

4.1 DISTRIBUTION OF THE PHARMACY WORKFORCE: UNDERLYING NEED

We have assessed underlying need for Pharmacy Workforce Package by examining the total number of pharmacists and community pharmacists registered with APRHA, where the data was available (2013-2015). As shown in Figure 4.1, the overall pharmacy workforce headcount increased from 19,188 in 2013 to 20,297 in

2015, a 5.8% increase. A similar magnitude of increase was seen in the community pharmacy headcount, which increased 4.7% between 2013 and 2015.

Figure 4.1: Headcount of total pharmacists and community pharmacists, 2013 to 2015



Source: AHPRA [4]

Despite the overall increase in the total number of pharmacists and community pharmacists in Australia, the pharmacy workforce remained unevenly distributed between 2013 and 2015, with the ratio of pharmacists to the population remaining skewed towards major cities. Figure 2.2 and Table 2.1 comprise data from AHPRA, provided by the Department's Health Workforce Division on the pharmacist workforce in 2013–15.

Analysis of pharmacist workforce data showed that the FTE rate of pharmacists per 100,000 head of population was consistently higher in major cities compared to non-metropolitan areas for community pharmacists, hospital pharmacists and other

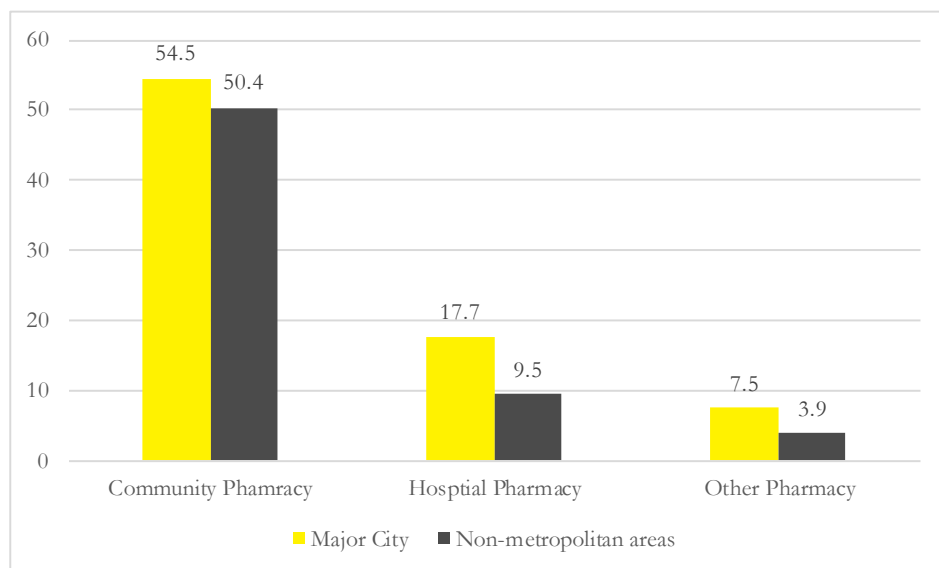
4 APPROPRIATENESS

types of pharmacists,³ However, the difference between major cities and non-metropolitan areas was greater for hospital pharmacists compared to community pharmacists or other pharmacists. See Table 4.1 and Figure 4.2.

Table 4.1: Pharmacist FTE rate per 100,000 population by pharmacist type and geographic location, 2015

Pharmacist type	Major City	Non-metropolitan areas
Community Pharmacy	54.5	50.4
Hospital Pharmacy	17.7	9.5
Other Pharmacy	7.5	3.9

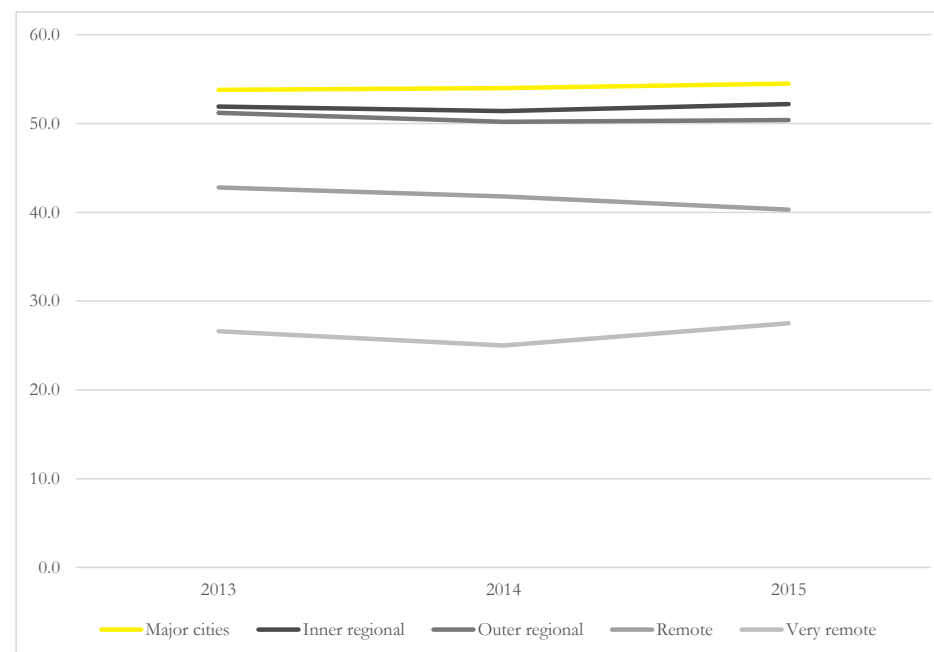
Figure 4.2: Pharmacist FTE rate per 100,000 population by pharmacist type and geographic location, 2015



³ Other pharmacists may include a pharmacist that works in an Aboriginal Health Service, community health service, correctional service, defence forces, educational facility, medical centre, pharmaceutical manufacturing, residential health care facility, wholesale pharmacy, other commercial/business service, other government department agency, or other private practice.

Further analysis of changes in community pharmacist FTE rate over time was undertaken. The analysis also shows an overall increase in the community pharmacy FTE rate per 100,000 people in major cities, inner regional areas and very remote areas between 2013 and 2015. However, over the same period, FTE rates in remote areas declined over the three years.

Figure 4.2: Community pharmacist workforce FTE rate (per 100,000) by remoteness and year



Source: AHPR4 [4]

By 2015, very remote areas had a community pharmacist FTE rate (per 100,000 people,) of 27.5, 50% lower than the rate for major cities (see Table 4.2).

4 APPROPRIATENESS

This indicates that, despite overall increases in community pharmacist headcount and FTE rates, the increases were limited to major cities, inner regional areas and very remote areas, not outer regional or remote areas.

Table 4.2: Community pharmacy workforce FTE rate (per 100,000) by remoteness and year

Year	Major cities	Inner regional	Outer regional	Remote	Very remote	Difference: very remote to major city
2013	53.8	51.9	51.2	42.8	26.6	27.2
2014	54.0	51.4	50.2	41.8	25.0	29.0
2015	54.5	52.2	50.4	40.3	27.5	27.0
Avg						27.7

Source: AHIPRA [4]

Key Finding 4: There was an overall increase of 5.8% in the number of pharmacists from 19,188 in 2013 to 20,297 in 2015. Similarly, there was an overall increase of 4.7% in the number of community pharmacists from 13,640 in 2013 to 14,276 in 2015.

Key Finding 5: The distribution of pharmacist FTE rates (per 100,000 population) was skewed towards metropolitan areas. The latest available data showed the following community pharmacist FTE per 100,000 people in 2015: major cities – 54.5; inner regional – 52.2; outer regional – 50.4; remote 40.3; and very remote – 27.5.

Key Finding 6: Based on the ongoing inequity of the pharmacist workforce distribution, it was concluded there is a continuing need for mechanisms to promote recruitment and retention of pharmacists in non-metropolitan areas, across all pharmacist types.

4.2 PROGRAM DESIGN: APPROPRIATENESS

The second element of the appropriateness assessment examined the nature of evidence supporting design features of the Rural Workforce Package. This analysis was primarily based on findings from a literature scan. Where there were gaps in information from the peer-reviewed literature our assessment was supplemented by examination of workforce data and consideration of stakeholder opinions.

4.2.1 Recruitment component programs

Rural Pharmacy Scholarship Scheme

The Scholarship Scheme's objective aim to support students from rural and remote areas to study a pharmacy course at university was strongly supported by peer-reviewed literature, as rural origin is a strong predictor of future rural practice.

Program design elements including the lack of a return-of-service (RSO) period and the scholarship value are in line with other similar programs. However, other scholarship schemes use remoteness classification indexes to determine rural origin that are based on geographic isolation, not service coverage such as PhARIA.

Rural Pharmacy Scholarship Mentor Scheme

Students' need for mentoring was supported by peer-reviewed literature. However, studies mostly concerned medical students. Mentoring for Aboriginal and Torres Strait Islander students was shown to be effective in supporting students to complete their studies. Other similar scholarship or placement programs include

4 APPROPRIATENESS

mentoring arrangements. However, stakeholders considered the honorarium payment value require review to better compensate the actual time spent on mentoring activities.

Rural Intern Training Allowance

There was strong evidence from peer-reviewed literature to support the role of rural exposure in encouraging future rural practice. Literature also identified access to continuing professional development (CPD) as a key challenge faced by rural workforce. However, there was limited information on best practices to attract and support rural interns.

Rural Pharmacy Student Placement Allowance

The promotion of rural placements as a means to increase students' exposure to and interest in rural practice is strongly supported by peer-reviewed literature. However, studies mostly focused on nursing and allied health students. The financial burden experienced by students is a significant barrier to completing a rural placement and is addressed by this program.

Key Finding 7:	Recruitment component programs are supported by moderate to strong evidence, as students with a rural origin or who have had exposure to rural practice are more likely to take up positions in rural areas. However, most literature focused on other health workforces and did not specifically support the appropriateness of delivery mechanisms (i.e. scholarships, placements) in encouraging rural practice.
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4.2.2 Retention component programs

Continuing Professional Education Allowance

Access to continuing professional education (CPE) is an acknowledged barrier for rural and remote workforces, as shown in studies of medical professionals. The

Australian Government recognises the barrier for other health professions through support programs.

Emergency Locum Service

Peer reviewed studies of allied health and oral health professionals identified access to locums was vital to supporting the rural workforce and may contribute to retaining professionals in rural areas. Pharmacists consulted with also found the Emergency Locum Service to be vital during times of emergency. However, pharmacists reiterated the difficulties in securing locums to cover absences in non-emergency situations such as for CPE events.

Intern Incentive Allowance for Rural Pharmacies and Extension Program

The evidence from the literature and Health Workforce Data analysis indicates a significant link between undertaking an internship in a rural location and future rural practice for health professionals, including pharmacists.

There is only anecdotal evidence to suggest that financial support for pharmacies is an appropriate method to support recruitment of interns / new graduates in non-metropolitan areas. Further evidence is required to support the anecdotal claims.

Key Finding 8:	Retention component programs are supported by moderate evidence. While the programs address key barriers experienced by pharmacists (i.e. access to interns, locums and CPE), there was limited evidence to support the mechanisms by which support was delivered (i.e. financial assistance to employ an intern).
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4.2.3 Other workforce support component programs

Rural Pharmacy Liaison Officer Program

The RPLO program aims to respond to the support, training and advocacy needs of rural pharmacists, students and the wider community. The program has a strong role

4 APPROPRIATENESS

in supporting clinical placements of pharmacists coordinated through University Departments of Rural Health (UDRH). No peer-reviewed literature exists to support the appropriateness of the program as it applies to pharmacy students or the nature of clinical placement support. However, the Australian Government recognises the need for additional support to rural health professionals through the development of other UDRH-run programs including the Mental Health Academics project.

Administrative Support to Pharmacy Schools

No literature was identified to support the provision of financial assistance to pharmacy schools to arrange rural placements. However, the efficacy of rural placements in influencing a student's future rural practice is strongly supported by peer-reviewed literature.

Key Finding 9:	Due to the broad aims underpinning programs providing other support to the pharmacy workforce, the appropriateness of their design is difficult to assess. No literature exists to support the design of either program. However, both programs providing other supports facilitate rural student placements, which have strong support in the literature.
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SECTION B: ABORIGINAL AND TORRES STRAIT ISLANDER WORKFORCE PACKAGE: APPROPRIATENESS

4.3 ACCESS TO MEDICINES: UNDERLYING NEED OF ABORIGINAL AND TORRES STRAIT ISLANDER PEOPLE

PBS data supports the need for programs to address ongoing disadvantage experienced by Aboriginal and Torres Strait Islander people. The *Aboriginal and Torres Strait Islander Health Performance Framework 2014 Report* identified total PBS expenditure on pharmaceuticals per Aboriginal and Torres Strait Islander person was around 44% of the amount spent per non-Indigenous person in 2010-2011. [4] The report also contends the gap between government expenditure on PBS medicines for Aboriginal and Torres Strait Islander people and non-Indigenous Australians increases with increasing remoteness (with the exclusion of very remote areas where Section 100 arrangements are in place).

Key Finding 10:	PBS expenditure data showed that Aboriginal and Torres Strait Islander people have an ongoing need to increase their access to subsidised medicines.
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4.4 PROGRAM DESIGN: APPROPRIATENESS

Aboriginal and Torres Strait Islander Pharmacy Assistant Traineeship Scheme

While no peer-reviewed literature was identified to support the aims of the Aboriginal and Torres Strait Islander Pharmacy Assistant Traineeship Scheme, consultation with peak body stakeholders supported the program's aim. It is unclear

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whether community consultation was undertaken when developing the program and, as such, may not be fully responsive to the needs of Aboriginal and Torres Strait Islander communities.

Aboriginal and Torres Strait Islander Pharmacy Scholarship Scheme

Evidence supporting the Aboriginal and Torres Strait Islander Pharmacy Scholarship Scheme is limited. Peak body stakeholder consultation supported the program. It is unclear whether community consultation occurred to inform the aims of the program.

Key Finding 11: There is limited peer-reviewed literature to support the design of programs to enhance availability of culturally appropriate pharmacy services. The programs have in-principle support from peak body stakeholders. However, it is unclear whether community consultation was undertaken to inform program design and ensure they respond to the needs of Aboriginal and Torres Strait Islander communities.

5 EFFECTIVENESS

An examination of a program's *effectiveness* seeks to ascertain:

whether program outcomes have achieved stated objectives [1].

To assess effectiveness for this evaluation we examined:

- For the Rural Workforce Package (see Section A below):
 - impact of the package on reducing the underlying need to strengthen the pharmacist workforce outside metropolitan areas, and
 - impact of the package on individual students and pharmacists.
- For the Aboriginal and Torres Strait Islander Workforce Package (see Section B below):
 - impact of the package on reducing the underlying need for Aboriginal and Torres Strait Islander people to access medicines.

KEY FINDINGS ON EFFECTIVENESS

The key findings of the evaluation on effectiveness are summarised in the following table.

SUMMARY OF KEY FINDINGS	
Key Finding 12:	Around an extra 270 FTE of community pharmacists would be required for regional and remote areas to achieve parity with major cities.
Key Finding 13:	The workforce recruitment and retention components of the Rural Workforce Package involve approximately 21% of the community pharmacist market annually, or around 800 pharmacists.

SUMMARY OF KEY FINDINGS

Key Finding 14:	The evaluation concluded that the Rural Workforce Package components under the 5CPA were largely ineffective in strengthening the rural workforce at a macro level, evidenced by the static (inner and outer regional areas) and negative (remote areas) community pharmacist FTE rates per 100,000 people between 2013 and 2015.
Key Finding 15:	Workforce recruitment programs generally achieved their derived aims of supporting students and interns to undertake education, placements and training that increased their exposure to rural pharmacy practice. Some programs (i.e. the Scholarship Scheme) were found to have a tangible impact on the number of prospective new rural pharmacists. Some programs may increase intention to practise in a rural area but there is no clear evidence that the program actually increases recruitment.
Key Finding 16:	Retention component programs achieved their <i>derived aims</i> of reducing financial barriers to rural practice such as access to CPE, locums and interns. All programs were highly valued by the pharmacists who accessed them. However, the extent to which these programs prevented pharmacists leaving rural practice was not measurable and could not be isolated from other drivers of greater retention.

5 EFFECTIVENESS

SUMMARY OF KEY FINDINGS	
Key Finding 17:	Other support component programs generally achieved their <i>derived aims</i> . However, these aims remain broad and self-fulfilling. A majority of stakeholders involved in the delivery of the programs stated that the support programs were vital to supporting recruitment activities.
Key Finding 18:	Despite the overall growth in the number of Aboriginal and Torres Strait Islander pharmacists, the FTE rate per 100,000 Aboriginal and Torres Strait Islander population remained low, supporting a position that there is an ongoing need to have recruitment programs for Aboriginal and Torres Strait Islander pharmacy workforce.
Key Finding 19:	Distribution of the Aboriginal and Torres Strait Islander pharmacy workforce is skewed towards major cities and remote areas.
Key Finding 20:	Programs under the component addressing the availability of culturally appropriate services for Aboriginal and Torres Strait Islander people contributed to their aim of increasing the Aboriginal and Torres Strait Islander pharmacy workforce. However, it is unclear whether an increase in Aboriginal and Torres Strait Islander representation in pharmacy workforce will effectively enhance the availability of culturally appropriate services for Aboriginal and Torres Strait Islander communities.

SUMMARY OF KEY FINDINGS	
Key Finding 21:	Wholesale changes to the Pharmacy Programs should be approached with caution. Although we found that the programs did not have any observable impact on strengthening the rural and remote pharmacy workforce levels, based on the available 2013–2015 data, there are other factors that must be considered in forming decisions about the future of the programs: the impacts of the current programs and their value to current and prospective recipients. An increase in the value of the grants could increase the incentives to take up the grants and promote larger shifts in the workforce into rural and remote areas.

EFFECTIVENESS ANALYSIS

SECTION A: RURAL PHARMACY WORKFORCE PACKAGE EFFECTIVENESS

5.1 ESTIMATED SHORTFALL IN COMMUNITY PHARMACISTS RELATIVE TO PROGRAM IMPACTS

It was beyond the scope of this evaluation to determine what an appropriate FTE rate of pharmacists per head of population is, or whether the current pharmacist FTE rates in major cities or other locations represent an under- or over-supply. However, we have developed a magnitude estimate of the extent of underlying need,

5 EFFECTIVENESS

assuming the current FTE ratio in major cities represents a reasonable benchmark. The workings are shown at Attachment C. We estimated that around an extra 1,000 FTE of pharmacists would be required for regional and remote areas to achieve parity with major cities. Of these, we estimated that approximately 270 FTE would need to be community pharmacists.

Key Finding 12:	Around an extra 270 FTE of community pharmacists would be required for regional and remote areas to achieve parity with major cities.
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5.2 ASSESSING IMPACT: PROGRAM EFFECTS RELATIVE TO UNDERLYING NEED

To assess the impact of the Rural Workforce Package relative to underlying need for additional pharmacists outside the major cities, we examined their market reach.

Our estimates calculated the workforce recruitment program components of the Package could contribute around 250 extra pharmacists per annum (see Table 5.1).

Table 5.1: Average recruitment program volume and estimated contribution to non-metropolitan new graduates, 2013–14 and 2014–15

Rural Workforce Package, workforce recruitment program components	Column A: Average annual no. of new program recipients	Column B: Return rate assumptions	Column C (A*B) Estimated new graduates p.a. attributable to program impacts
Rural Pharmacy Scholarship Program	42*	50% return rate (based on evaluation survey responses)	21
Rural Pharmacy Student Placement Allowance	381	20% return rate (based on consultation findings)	76
Rural Intern Training Allowance	185	92% return rate (based on NHWDS)	170
Total	607		267[^]

Source: Recruitment program data, NHWDS 2013–2015.

* based on average scholarship intake per cohort year.

[^]The total estimated number of new graduate attributable to program impacts may overestimate the actual number as one new graduate may have benefitted from more than one program.

The recruitment impacts of the Package must be considered in conjunction with its retention program impacts. We estimated that, at best, these programs would involve around 500 (14%) of the 3,700 community pharmacist FTE operating outside major cities (see Table 5.2).

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Table 5.2: Average retention program volume as percentage of average number of non-metropolitan community pharmacists, 2014-2015

Rural Workforce Package, workforce retention components	Avg annual volume, 2014–2015	% of non-metropolitan community pharmacists
Continuing Professional Education Allowance	385	10%
Intern Incentive Allowance for Rural Pharmacies	74	2%
Emergency Locum Service	56	1%
Intern Incentive Allowance – Extension Program	9	0%
Workforce retention programs – estimated total	524*	14%
Pharmacist FTE outside major cities	3,772 [^]	100%

[^] NHWDs 2013–2015

*The estimated total volume of workforce retention program recipients may overestimate actual volume as one pharmacist may have benefited from more than one program.

Based on the market reach analysis we estimated that the recruitment and retention programs would involve around 750-800 pharmacists or new pharmacy recruits per annum⁴, or around 21% of the community pharmacist market outside major cities.

Key Finding 13:	The workforce recruitment and retention components of the Rural Workforce Package involve approximately 21% of the community pharmacist market annually, or around 800 pharmacists.
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The reach of the Rural Workforce Package recruitment and retention program components is relatively low compared to the current workforce in rural and remote areas (approximately 4,800 total pharmacist FTE, or 3,700 community pharmacists FTE). Based on this disparity, we concluded that the Rural Workforce Package had

⁴ 750-800 pharmacists was calculated from the estimate of 260 new pharmacists (recruitment – see Table 5.1) and 520 existing pharmacists (retention – see Table 5.2).

no major impact at a macro level on reducing the inequitable pharmacist workforce distribution described in the assessment of appropriateness (see Chapter 4). The limited workforce trend data described in Chapter 4 supports this conclusion: the pharmacist FTE per 100,000 people between 2013 and 2015 were largely static (in the case of inner regional and outer regional areas) or went backwards (in the case of remote areas).

Key Finding 14:	The evaluation concluded that the Rural Workforce Package components under the 5CPA were largely ineffective in strengthening the rural workforce at a macro level, evidenced by the static (inner and outer regional areas) and negative (remote areas) community pharmacist FTE rates per 100,000 people between 2013 and 2015.
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Although the evidence suggests there are problems over effectiveness at a macro level, the evaluation found evidence of effectiveness at a micro level – the impacts of the programs on individual students and pharmacists. Micro level effectiveness is discussed below.

5.3 RURAL WORKFORCE PACKAGE: IMPACTS ON RECIPIENTS

The findings about the effectiveness impact of the Rural Workforce Package component on recipients are based on survey responses of Pharmacy Workforce Program grant recipients, and observations from peak bodies and program user consultations. Further details are available in Volume 2, *Detailed Analysis of Workforce Programs*.

The Rural Workforce impacts on recipients are examined in three categories: recruitment, retention and other workforce support.

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5.3.1 Workforce recruitment programs

Workforce recruitment programs aim to support the recruitment of new pharmacists into the rural workforce through programs targeting students and interns who will potentially practise in rural and remote areas. This section discusses the extent to which the programs in this category achieved this broad aim and their program-specific *derived aims*. This section concludes with an overall assessment of effectiveness at the category level.

Rural Pharmacy Scholarship Scheme

The Scholarship Scheme as it is currently administered achieves its aim to enable students from PhARIA 2–6 areas to attend university. Evaluation surveys found the financial support provided under the Scheme is a deciding factor for many of the respondent students who said they could not otherwise afford to attend university.

However, the PhARIA geographic criteria excludes students from regional areas classified as PhARIA 1.

Despite scholarship recipients having previous intentions to practise in a rural area prior to studying pharmacy, the evaluation survey shows only around half of scholarship recipients go on to practise in rural and remote areas after becoming qualified.

Rural Pharmacy Scholarship Mentor Scheme

The Mentor Scheme achieves its aim to encourage scholarship recipients to undertake studies in pharmacy and was highly valued by participating scholarship recipients. However, it is unclear whether mentoring has an impact on scholars' intention to return to a rural area once qualified. Most mentors collect the honorarium payment and believe it is adequate compensation for their effort.

Rural Intern Training Allowance

Both the surveys and consultations affirmed the Rural Intern Training Allowance achieves its aim to reduce the additional costs incurred to undertake compulsory workshops and examinations.

Rural Pharmacy Student Placement Allowance

The program achieved its aim of covering travel and accommodation costs associated with rural placements. Students who received the allowance, as well as university placement officers, stated students generally would not complete a rural placement without access to the allowance.

The number of students who received a placement allowance decreased over the 5CPA, despite increases in the number of students enrolled in pharmacy courses. The proportion of students who receive an allowance has remained low across the 5CPA when compared to the total number of enrolled students.

Key Finding 15:	Workforce recruitment programs generally achieved their derived aims of supporting students and interns to undertake education, placements and training that increased their exposure to rural pharmacy practice. Some programs (i.e. the Scholarship Scheme) were found to have a tangible impact on the number of prospective new rural pharmacists. Some programs may increase intention to practise in a rural area but there is no clear evidence that the program actually increases recruitment.
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5.3.2 Workforce retention programs

Programs in this category aim to support retention of existing rural pharmacists in PhARIA 2–6 areas by addressing disadvantages faced by pharmacists relative to pharmacists working in PhARIA 1. This section discusses the extent to which these programs achieved this broad aim and program-specific *derived aims*.

Continuing Professional Education Allowance

Based on the usage data of the CPE Allowance from 2012 to 2015, we concluded that the program meets its aim of reducing additional costs incurred by pharmacists practising in rural and remote communities to undertake CPE activities. However,

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the distribution of the allowance funds may not be equitable across the jurisdictions or reflect need based on remoteness (using the PhARIA scale).

Conversely, the CPE Allowance has not led to an increase in delivery of face-to-face CPE activities in rural and remote areas, evidenced by the educator use of CPE Allowance funds.

Emergency Locum Service

The Emergency Locum Service is a highly-valued program among non-metropolitan pharmacists, as reflected by the increase in demand over the last five years. The Service was considered vital by recipient pharmacists in reducing temporary closures of pharmacies.

Demand is highest in PhARIA 3 and above locations, with PhARIA 6 pharmacists requiring the greatest length of locum days. This indicates that the Service is achieving its aim of supporting rural and remote communities to retain access to community pharmacy services.

Intern Incentive Allowance for Rural Pharmacies and Extension Program

The Intern Incentive Allowance for Rural Pharmacies and the associated Extension Program were found to partially meet their aim to enable rural and remote pharmacies to engage pharmacy interns and new graduates. Some pharmacies may not be able to employ an intern or new graduate without these programs. However, other factors influence the number of interns and new graduates seeking placement or employment in non-metropolitan pharmacies. For example, some potential interns do not want to travel to more remote locations, even though a contribution to costs is available. There are also non-financial barriers on the pharmacy side; many comments were made by pharmacists about interns being a time-consuming staff resource.

Key Finding 16:	Retention component programs achieved their <i>derived aims</i> of reducing financial barriers to rural practice such as access to CPE, locums and interns. All programs were highly valued by the pharmacists who accessed them. However, the extent to which these programs prevented pharmacists leaving rural practice was not measurable and could not be isolated from other drivers of greater retention.
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5.3.3 Other workforce support programs

Other workforce support programs underpin the broader rural pharmacy workforce including students, pharmacy schools and practising pharmacists, delivered via funding available to 12 University Departments of Rural Health (UDRHs) and Pharmacy Schools. This section discusses the extent to which the programs in this category achieved this broad aim and program-specific *derived aims*.

Rural Pharmacy Liaison Officer Program

The RPLO program is highly regarded by peak body stakeholders (other than The Guild), rural pharmacists operating within the catchment of UDRHs, and pharmacy students who had exposure to UDRHs. RPLOs were found to achieve each of the aims of their role, particularly in their role of supporting rural placements coordinated through the UDRHs.

However, the RPLO program is restricted by the current scope of the role and the administrative arrangements of the program, including inability to secure long term contracts, and the inability of the funds to be applied to research work.

Administrative Support to Pharmacy Schools

The Administration Support to Pharmacy Schools program was considered vital by university placement coordinators to compensate for the additional workload associated with arranging rural placements. However, the program has not led to an increase in the number of rural placements provided by universities over the life of

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the 5CPA. It is unclear whether the program prevented decreases in placements. Further investigation is required to determine whether the program has met its aims of increasing the number of placement coordinators employed by universities, and increasing awareness of other recruitment programs.

Key Finding 17: Other support component programs generally achieved their *derived aims*. However, these aims remain broad and self-fulfilling. A majority of stakeholders involved in the delivery of the programs stated that the support programs were vital to supporting recruitment activities.

SECTION B: ABORIGINAL AND TORRES STRAIT ISLANDER WORKFORCE PACKAGE EFFECTIVENESS

5.4 EFFECTIVENESS IN ADDRESSING UNDERLYING NEED

As discussed previously, a number of measures exist to support enhanced access to culturally appropriate pharmacy services for Aboriginal and Torres Strait Islander people. Each of these initiatives, as well as the in-scope workforce programs, seek to address different aspects of the medicines supply chain. For example, QUMAX and Section 100 arrangements aim to improve access to and quality use of PBS medicines, particularly in remote areas. The objective of the Closing The Gap (CTG) PBS Co-Payment Measure is to reduce the cost of PBS medicines for eligible Aboriginal and Torres Strait Islander people, thereby removing financial barriers to accessing pharmacy services.

Another way in which culturally enhanced access to medicines can be facilitated is to have Aboriginal and Torres Strait Islander pharmacists and pharmacy assistants

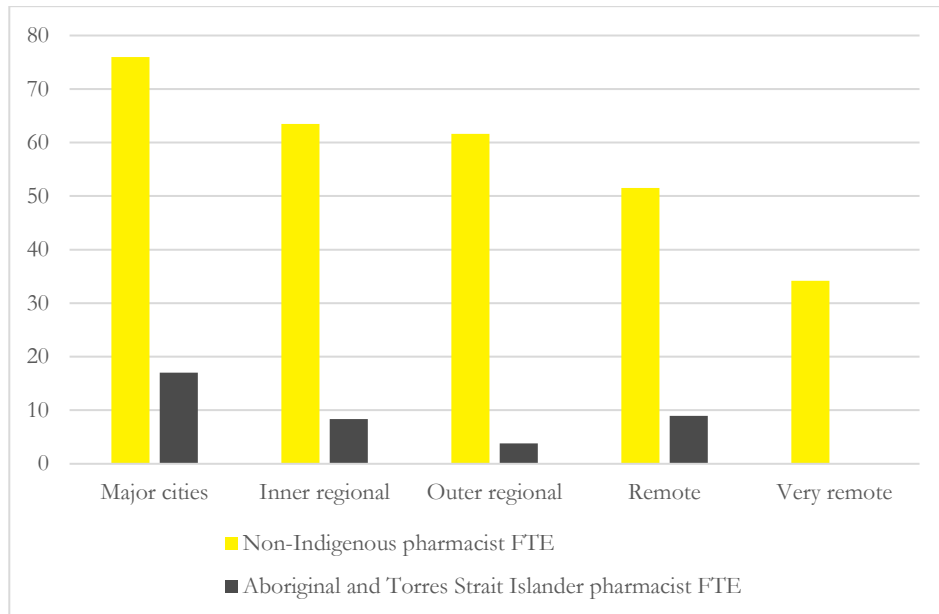
working in community pharmacies. This will increase access to culturally appropriate advice on quality use of medicines. In addition, some Aboriginal and Torres Strait Islander people can find it culturally confronting to access their medicines outside an Aboriginal Medical Service (AMS); the ability to receive dispensing and advice from Aboriginal and Torres Strait Islander pharmacy staff may overcome this perception.

In 2015, there was an increase of 12 Aboriginal and Torres Strait Islander pharmacists compared to 2013, a 21% increase from a base of 55, bringing the total to 67 pharmacists. This represented an average rate of 9.3 FTE pharmacists per 100,000 Aboriginal and Torres Strait Islander population. This is still significantly below the 2015 major city benchmark rate of 76 FTE per 100,000 people. To reach this benchmark, a further 450 Aboriginal and Torres Strait Islander pharmacist FTE is required (an approximate seven-fold increase on 2015 FTE figures).

In 2015, the FTE rate of Aboriginal and Torres Strait Islander pharmacists per 100,000 Aboriginal and Torres Strait Islander people was highest in major cities (17), and lowest in outer regional areas (3.8). No Aboriginal and Torres Strait Islander pharmacists were working in very remote locations as shown in Figure 5.1.

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Figure 5.1: FTE rate per 100,000 non-Indigenous people compared to Aboriginal and Torres Strait Islander pharmacists, by remoteness category, 2015



Source: AHPRA [4], ABS [5]

N.B: FTE rates for Aboriginal and Torres Strait Islander pharmacy workforce were calculated using clinical FTE and total Aboriginal and Torres Strait Islander population from 2011 ABS census data for each remoteness category. The FTE rate for non-Indigenous pharmacists was calculated using clinical FTE and ABS data for the total Australian population. This method better reflects the capacity of the Aboriginal and Torres Strait Islander pharmacy workforce to service the needs of Aboriginal and Torres Strait Islander communities.

Key Finding 18: Despite the overall growth in the number of Aboriginal and Torres Strait Islander pharmacists, the FTE rate per 100,000 Aboriginal and Torres Strait Islander population remained low, supporting a position that there is an ongoing need to have recruitment programs for Aboriginal and Torres Strait Islander pharmacy workforce.

Key Finding 19: Distribution of the Aboriginal and Torres Strait Islander pharmacy workforce is skewed towards major cities and remote areas.

5.5 EVALUATION LIMITATIONS: PHARMACY ASSISTANTS

Pharmacy assistants are not required to register with the Pharmacy Board. As a consequence, there is no current data available from the Pharmacy Board on trends in the number of pharmacy assistants. This meant the evaluation was unable to assess the impacts of the Aboriginal and Torres Strait Islander Pharmacy Assistant Traineeship Scheme in addressing underlying needs for Aboriginal and Torres Strait Islander pharmacy assistants.

5.6 ENHANCING AVAILABILITY OF CULTURALLY APPROPRIATE SERVICES COMPONENT PROGRAMS

Programs under the Aboriginal and Torres Strait Islander Package seek to enhance availability of culturally appropriate pharmacy services by increasing the number of Aboriginal and Torres Strait Islander people within the pharmacy workforce. This section discusses the extent to which component programs achieved this broad aim and program-specific *derived aims*.

Aboriginal and Torres Strait Islander Pharmacy Assistant Traineeship Scheme

Available data was not sufficiently detailed to determine whether the Aboriginal and Torres Strait Islander Pharmacy Assistant Traineeship Scheme led to an increase in the number of Aboriginal and Torres Strait Islander pharmacy assistants over the

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life of the 5CPA – data was only available on the number of grant recipients, not how many of those recipients continued in an assistant role. However, program participants agreed the Scheme was effective in encouraging Aboriginal and Torres Strait Islander people to commence a career as a pharmacy assistant.

Aboriginal and Torres Strait Islander Pharmacy Scholarship Scheme

Aboriginal and Torres Strait Islander Pharmacy Scholarship Scheme recipients may account for a significant proportion of the increase in Aboriginal and Torres Strait Islander pharmacists. However, it is unclear if increasing workforce is the most appropriate means of increasing access to culturally appropriate pharmacy services for Aboriginal and Torres Strait Islander people.

Key Finding 20:	Programs under the component addressing the availability of culturally appropriate services for Aboriginal and Torres Strait Islander people contributed to their aim of increasing the Aboriginal and Torres Strait Islander pharmacy workforce. However, it is unclear whether an increase in Aboriginal and Torres Strait Islander representation in pharmacy workforce will effectively enhance the availability of culturally appropriate services for Aboriginal and Torres Strait Islander communities.
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5.7 OVERALL CONCLUSION ON EFFECTIVENESS

Our analysis of the program effectiveness has sought to distinguish different aspects of this evaluation criteria. While we found that the program Packages had been ineffective in reducing the underlying need for a strengthened workforce, this was not the case at a micro level – the impact on individual students and community pharmacists was effective.

In Section 5.3 it was noted there are around 600 new recipients of direct support annually via recruitment support programs and 500 recipients annually of direct

support via workforce retention grants. The evaluation survey responses and consultation feedback suggest that an overwhelming majority of these recipients valued the grant monies received and acknowledged that it informed their decisions about career planning.

The actual recruitment and retention levels clearly attributable to the Pharmacy Workforce are much harder to quantify – in some cases this would be extremely difficult to measure, for example, the Emergency Locum Scheme. Evaluation survey responses suggest that measuring recruitment and retention that is directly attributable to a program is highly variable according to the specific program; indicative rates range from 20% of recruitment due to the program (Rural Pharmacy Student Placement Allowance) up to 50% (Rural Pharmacy Scholarship Program).

Based on these observations, we suggest that wholesale changes to the Pharmacy Programs should be approached with caution. Although we found that the programs did not have any observable impact on strengthening the rural and remote pharmacy workforce levels, based on the available 2013–2105 data, there are other factors that must be considered in forming decisions about the future of the programs, such as:

- the effect of these programs may be offsetting underlying incentives for the workforce to prefer working in major cities, which may have stabilised the shift of resources to major cities, and
- it is possible that the allocation of additional resources to the Packages, via an increased value of grants for many of the programs, could increase the incentive of individuals to take up the grants and promote larger shifts in the workforce into rural and remote areas.

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Key Finding 21: Wholesale changes to the Pharmacy Programs should be approached with caution. Although we found that the programs did not have any observable impact on strengthening the rural and remote pharmacy workforce levels, based on the available 2013–2015 data, there are other factors that must be considered in forming decisions about the future of the programs: the impacts of the current programs and their value to current and prospective recipients. An increase in the value of the grants could increase the incentives to take up the grants and promote larger shifts in the workforce into rural and remote areas.

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An examination of a program’s *efficiency* seeks to ascertain:

whether there are better ways of achieving these objectives [1], including consideration of expenditure and cost per output, project governance arrangements, and implementation processes. [2]

To assess efficiency for this evaluation we examined:

- the mix and balance of program expenditure targeting retention, recruitment, other support or enhancing access to culturally appropriate services
- the acceptability of estimated overhead costs for administering the programs, and
- each program’s value for money as perceived by community pharmacists in surveys.

KEY FINDINGS ON EFFICIENCY

The key findings of the evaluation on effectiveness are summarised in the following table.

SUMMARY OF KEY FINDINGS	
Key Finding 22:	The review of Pharmacy Workforce Programs found they are not maximising their impact or reach and may not be reacting to the changing needs of rural community pharmacists. The impact, reach and currency of the Pharmacy Workforce Programs could be improved by more proactive program governance.

SUMMARY OF KEY FINDINGS	
Key Finding 23:	The majority of program funding was directed to recruitment programs (38.1% of total Pharmacy Workforce Programs’ expenditure), followed by retention programs (28.1% of expenditure), other workforce support programs (28.9% of expenditure) and programs to enhance availability of culturally appropriate services (4.9% of expenditure).
Key Finding 24:	In contrast to general practice and dentistry, there are no programs that incentivise existing pharmacists in major cities to relocate to rural and remote areas, or overseas trained pharmacists to work in non-metropolitan areas. Consideration could be given to introducing such programs to enhance recruitment rates to non-metropolitan areas.
Key Finding 25:	The funding for enhanced culturally appropriate services targeting Aboriginal and Torres Straits students and trainees was focussed solely on recruitment programs. This was reflected in the recruitment of new graduates to rural and remote areas, but there were no retention programs for this workforce category.

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SUMMARY OF KEY FINDINGS	
Key Finding 26:	There was insufficient data on programs aimed at increasing access to culturally appropriate pharmacy services to determine their impact on the rural and remote workforce. However, the Aboriginal and Torres Strait Islander Scholarship Scheme appeared to have contributed to modest growth in the Aboriginal and Torres Strait Islander pharmacist workforce.
Key Finding 27:	The estimated cost of administering both Pharmacy Workforce package components was within an acceptable range (under 30% of total program cost).
Key Finding 28:	Pharmacists considered the most effective programs relative to cost were the Intern Incentive Allowance for Rural Pharmacies, the CPE Allowance and the RPLO Program.

EFFICIENCY ANALYSIS

6.1 PROGRAM GOVERNANCE

Issues with program management, operation and reporting identified during the review point to areas in which program governance could be improved. We did not find strong evidence that the Pharmacy Workforce Programs were closely monitored to ensure the programs consistently meet their objectives, maximised their reach and continue to innovate and adapt to workforce issues. On the contrary, HMA had to retrospectively calculate annual activity and expenditure estimates by summing data in quarterly returns.

As discussed in Section 2.2, the programs lack measurable objectives which diminished the Department's ability to monitor their effectiveness against specific targets.

Furthermore, the program under-spend identified in Section 2.4 indicates available resources were not being utilised to maximise program outputs. Identifying under-spending is made more difficult as expenditure appears to be reported by individual program, rather than tallied for the package as a whole.

Take-up volumes for particular programs appeared to be low (e.g. the Aboriginal and Torres Strait Islander Pharmacy Assistant Traineeship Scheme). However, no proactive management of program marketing was identified in the review. Consultation with pharmacy students, interns and community pharmacists identified a lack of awareness of particular programs suggesting patchy promotion activities.

Finally, the evaluation found that the goals and functions of the programs have not evolved to any great degree since their inception in the 3CPA. However, the subsequent 17 years have seen significant changes in the way community pharmacists operate in rural and remote areas such as the introduction of QUMAX. In addition, incentives to develop the non-metropolitan workforce in the medicine, nursing and other allied health professions have evolved over this same period.

Key Finding 22:	The review of Pharmacy Workforce Programs found they are not maximising their impact or reach and may not be reacting to the changing needs of rural community pharmacists. The impact, reach and currency of the Pharmacy Workforce Programs could be improved by more proactive program governance.
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6.2 MIX OF PROGRAM TYPES

For this evaluation, the Pharmacy Workforce Programs were categorised by their objective (recruitment, retention, other support or access to culturally appropriate services). In addition, a second classification based on the workforce support activity

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type was undertaken as follows: professional and lifestyle exposure of students to a rural and remote community experience; a scholarship or traineeship; and travel / accommodation costs to ease the burden of distance generated from working in rural and remote areas.

The relationship of programs between these two classification systems is presented in Table 6.1.

This analysis shows that the recruitment programs focused across all activity types – professional and lifestyle exposure, scholarship and travel expenses – with a total annual investment of approximately \$1.8m (or 38.1% of the total Pharmacy Workforce Programs' expenditure).

Retention programs covered two of the activities – professional and lifestyle exposure and travel expenses – with a total annual expenditure of approximately \$1.3m (28.1%).

The 'other workforce support' programs were professional and lifestyle-related programs, and focused predominately on recruitment (e.g. student placements) rather than retention of the existing workforce. These programs had a total annual expenditure of approximately \$1.4m (28.9%).

The programs to enhance availability of culturally appropriate pharmacy services – targeting Aboriginal and Torres Strait Islander students – were all scholarship or traineeship based programs. Total annual expenditure was approximately \$0.2m (4.9%).

Key Finding 23:	The majority of program funding was directed to recruitment programs (38.1% of total Pharmacy Workforce Programs' expenditure), followed by retention programs (28.1% of expenditure), other workforce support programs (28.9% of expenditure) and programs to enhance availability of culturally appropriate services (4.9% of expenditure).
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This analysis of expenditures by activity type highlights opportunities to find alternative ways of promoting the strengthening of the community pharmacy

workforce. These are examined under the recruitment and retention activity categories below.

6.2.1 Recruitment and support programs

Combining the expenditure on recruitment and other support programs (as both types of programs primarily target pharmacy students and interns) had an average expenditure of \$3.2m or 67.0% of the Pharmacy Workforce Package funding. It is noteworthy that the individual programs focus on recruiting newly graduated pharmacists to work in rural and remote locations, unlike general practice (supported by the GP Rural Incentives Program that provides grants of up to \$60,000). Until recently, regional relocation of dentists was supported by the Dental Relocation and Infrastructure Support Scheme.

Key Finding 24:	In contrast to general practice and dentistry, there are no programs that incentivise existing pharmacists in major cities to relocate to rural and remote areas, or overseas trained pharmacists to work in non-metropolitan areas. Consideration could be given to introducing such programs to enhance recruitment rates to non-metropolitan areas.
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6.2.2 Retention programs

Retention programs account for approximately one-third of the Pharmacy Workforce Programs' expenditure. The retention programs focus solely on financial support for known expense burdens, e.g. travel/accommodation costs for professional development or emergency locums, or funds to offset higher wages/living costs for interns. However, there are no 'other support programs' tailored to increasing retention rates, such as assistance with small business operations (e.g. accounting, new infrastructure), flexible legislation for single pharmacist areas, or professional networking opportunities. Nor are there any scholarship programs to support pharmacists to gain additional skills that may be required to effectively operate in a non-metropolitan pharmacy.

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It must be noted that the RPLO program was designed to assist with networking and professional development opportunities. However, at 0.4 to 0.6 FTE, most RPLOs predominately focus on student placement needs. In addition, there are many rural and remote locations that are not affiliated with a UDRH that has an RPLO employed.

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Table 6.1: Average expenditure of Pharmacy Workforce Program (2013–14 to 2014–15) by category type, \$m (% total expenditure)

		Rationale for the Expenditure Type			Total Annual Expenditure (\$m)
		Exposure	Scholarship	Travel	
Workforce Support Activity Type Rationale		Professional and lifestyle exposure of students to a rural and remote community experience, with time to support immersion into a community, identified in the literature as an effective way to attract employees	To enable financially disadvantaged rural or Aboriginal and Torres Strait Islander students to undertake pharmacy studies	To compensate for the increased travel costs associated with rural and remote locations	
Recruit	To attract new graduate pharmacists to work in rural and remote locations	\$0.67m (14.3%) • Student Placement Allowance	\$1.04m (22.1%) • Rural Scholarship • Mentorship Scheme	\$0.08m (1.7%) • Rural Intern Incentive Allowance	\$1.79m (38.1%)
Retention	To support the existing workforce to continue working in rural and remote locations	\$0.86 (18.3%) • Intern Incentive Allowance for Rural Pharmacies • Intern Incentive Allowance for Rural Pharmacies – Extension program	-	\$0.46m (9.8%) • CPE Allowance • Emergency Locum Service	\$1.32m (28.1%)
Support	To provide indirect support for student placements	\$1.36m (28.9%) • RPLO • Administration Support to Pharmacy Schools	-	-	\$1.36m (28.9%)
Access to culturally appropriate services	To increase access to culturally appropriate pharmacy services for Aboriginal and Torres Strait Islander customers	-	\$0.23m (4.9%) • Aboriginal and Torres Strait Islander Pharmacy Scholarship Scheme • Aboriginal and Torres Strait Islander Pharmacy Assistant Traineeship Scheme	-	\$0.23m (4.9%)
Total		\$2.89m (61.5%)	\$1.27m (27.0%)	\$0.54m (11.5%)	\$4.7m (100%)

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6.2.3 Enhanced culturally appropriate service access programs

Programs to increase access to culturally appropriate pharmacy services for Aboriginal and Torres Strait Islander people account for only 4.9% of the Pharmacy Workforce Package funding. The Aboriginal and Torres Strait Islander Scholarship Scheme may contribute substantially to the small increase in Aboriginal and Torres Strait Islander pharmacists observed between 2013 and 2015. However, there is evidence to indicate that many previous scholarship recipients are now working in PhARIA 1 locations, albeit with Aboriginal and Torres Strait Islander populations above the national average. This is an important contribution to culturally appropriate service access, but it may not reflect an increase in the rural and remote workforce.

Similarly, most pharmacies that benefited from the Aboriginal and Torres Strait Islander Pharmacy Assistant Traineeship Scheme were located in areas with Aboriginal and Torres Strait Islander populations above the national average, indicating a contribution to culturally appropriate access. However, there was insufficient data on how many pharmacy assistants completed the training and continued employment at the pharmacy post training, or if the pharmacies were in rural or remote areas. Therefore, the contribution of the Aboriginal and Torres Strait Islander Pharmacy Assistant Traineeship Scheme to the rural and remote workforce is unclear.

Key Finding 25:	The funding for enhanced culturally appropriate services targeting Aboriginal and Torres Straits students and trainees was focussed solely on recruitment programs. This was reflected in the recruitment of new graduates to rural and remote areas, but there were no retention programs for this workforce category.
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Key Finding 26:	There was insufficient data on programs aimed at increasing access to culturally appropriate pharmacy services to determine their impact on the rural and remote workforce. However, the Aboriginal and Torres Strait Islander Scholarship Scheme appeared to have contributed to modest growth in the Aboriginal and Torres Strait Islander pharmacist workforce.
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6.3 UNIT COST AND ADMINISTRATIVE OVERHEADS

Total unit costs of individual programs were calculated for each Pharmacy Workforce Program. The unit costs were calculated based on:

- direct program expenditure (e.g. value of scholarship x the number of scholarships grants), and
- an allocated proportion of The Guild's administrative costs (see Appendix E).

Table 6.2 shows the estimated administrative overhead costs by program, as a proportion of total unit cost. Administration overhead costs incurred by The Guild were derived from budget reporting data provided by the Department for 2010/11 – 2014/15 financial years of the 5CPA for both the Aboriginal and Torres Strait Islander Workforce Programs and Rural Pharmacy Workforce Programs.

There were numerous limitations with this data, including:

- the data reflects administration budgets not expenditure, and
- the total administration budget was not broken down by individual program. The administration costs were 'pooled' into two categories:
 - Aboriginal and Torres Strait Islander Workforce Programs, and
 - Rural Pharmacy Workforce Programs.

Administration overhead budget was allocated to each program by program volume. This assumes that, as program volumes increase, so does the administrative effort

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required to deliver the program (e.g. processing applications, managing funds, reporting etc.). This approach was limited as some programs required greater effort than others to administer. However, HMA considers this limitation was not significant. The distribution of the administration budget across the programs was a ‘zero sum game’; under this cost apportionment methodology a reduction in the average overhead allocation for one program would be offset by increases in another.

Table 6.2: Estimated administration overhead cost as a proportion of unit cost

Program	Estimated administration overhead cost as a proportion of unit cost
Rural Pharmacy Workforce Programs	
Rural Pharmacy Scholarship Mentor Scheme	62%
Rural Intern Training Allowance	61%
Continuing Professional Education Allowance	56%
Emergency Locum Service	20%
Rural Pharmacy Scholarship Scheme	6%
Intern Incentive Allowance for Rural Pharmacies	6%
Intern Incentive Allowance for Rural Pharmacies – Extension Program	3%
Rural Pharmacy Student Placement Allowance	2%
Administrative Support to Pharmacy Schools	2%
Rural Pharmacy Liaison Officer Program	1%
Average proportion for package	15%
Aboriginal and Torres Strait Islander Workforce Programs	
Aboriginal and Torres Strait Islander Pharmacy Assistant Traineeship Scheme	29%
Aboriginal and Torres Strait Islander Pharmacy Scholarship Scheme	21%
Average proportion for package	25%

Key Finding 27: The estimated cost of administering both Pharmacy Workforce package components was within an acceptable range (under 30% of total program cost).

6.4 RANK CORRELATION ANALYSIS

In order to gain a quantitative assessment of the workforce programs’ value for money, a survey was distributed to community pharmacists who attended the consultations at UDRH sites. This survey provided pharmacists with information regarding program rules as well as the average annual volume of recipients and funding attributed per output (e.g. per scholarship). Pharmacists were asked to assign a value from 0–5 based upon how effective they perceived these programs to be against how much the programs cost (a score of 1 was assigned if the program was not at all effective, while 5 was assigned if it was extremely effective). The data collected through this survey was used to conduct a rank correlation analysis, an evaluation technique that allows for the direct comparison of multiple programs with varied outputs and requires stakeholders to identify their value.

The 28 responses received from community pharmacists was collated to produce an overall score of all 12 Pharmacy Workforce Programs summarised in Table 6.3. A detailed summary of the scores and ranking methodology is provided in Appendix F. The highest possible score a program could achieve was 140 (28 responses times a maximum of 5 points).

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Table 6.3 Rank correlation analysis aggregate scores by program

Workforce program	Total respondent score
Intern Incentive Allowance for Rural Pharmacies	109
Continuing Professional Education Allowance	109
Rural Pharmacy Liaison Officer Program	109
Intern Incentive Allowance for Rural Pharmacies Extension Program	100
Rural Pharmacy Scholarship Scheme	96
Rural Pharmacy Student Placement Allowance	93
Rural Intern Training Allowance	79
Aboriginal and Torres Strait Islander Pharmacy Assistant Traineeship Scheme	55
Administrative Support to Pharmacy Schools	42
Aboriginal and Torres Strait Islander Scholarship Scheme	41
Emergency Locum Service	41
Rural Pharmacy Scholarship Mentor Scheme	34

This ranking data shows that the programs that pharmacists perceived to be the most effective relative to cost are the Intern Incentive Allowance for Rural Pharmacies, CPE Allowance and RPLO Program. The programs seen to be the least effective were the Rural Pharmacy Scholarship Mentor Scheme, the Emergency Locum Service and the Aboriginal and Torres Strait Islander Pharmacy Scholarship Scheme.

As this survey was only distributed to a small number of pharmacists, programs where pharmacists were not the recipient tended to rank lower. Pharmacists consulted also had limited exposure to Aboriginal and Torres Strait Islander specific programs and therefore, many were unable to comment on the efficacy of these programs.

Key Finding 28: Pharmacists considered the most effective programs relative to cost were the Intern Incentive Allowance for Rural Pharmacies, the CPE Allowance and the RPLO Program.

7 CONCLUSION AND OPTIONS FOR FUTURE DEVELOPMENT

7.1 SUMMARY OF EVALUATION FINDINGS

The evaluation found that the Pharmacy Workforce Package had minimal impact on the pharmacy workforce at the macro level. However, the impact, reach and currency of the Pharmacy Workforce Programs could be improved by more proactive program governance.

All 12 Pharmacy Workforce Programs were highly valued by recipients and generally well received by broader stakeholders. Although, as a package, the programs did not show significant impact on pharmacy workforce growth in rural and remote locations, further analysis indicates that some program types may have more impact than others.

Recruitment programs may have the greatest impact. It was estimated that recruitment programs could reach approximately 600 recipients per year, with approximately 250 students / interns likely to return to rural and remote areas. This correlates with the average number of new graduates working in rural and remote areas (270 new graduates).

Conversely, retention programs do not appear to significantly impact on the pharmacy workforce. Pharmacist turn-over rates in rural and remote areas were estimated to be 1.3 to 1.8 times higher than in major cities. In addition, retention programs were estimated to reach less than 10% of the existing rural and remote workforce.

It was estimated that an additional 800 pharmacists are required in rural and remote areas in order to reach parity with major cities. Therefore, a greater investment in workforce programs is required to address the ongoing pharmacist shortage in these areas.

Programs supporting increased access to culturally appropriate services for Aboriginal and Torres Strait Islander people were more challenging to evaluate, as

their core objectives were to improve culturally appropriate access to PBS medicines, and should therefore not be limited to workforce growth or rural and remote locations.

Total unit costs of individual programs were calculated based on program usage and an allocated proportion of administration funding. The unit costs were ranked as small (below \$10,000), moderate (\$10,000 to \$50,000), or large (above \$50,000).

The perceived benefit of the programs on the rural and remote pharmacy workforce was also assessed. The benefit of the programs was assessed using the perceptions of peak body stakeholders, pharmacists or program recipients or supported by published peer reviewed literature, workforce data, program data and rank correlation analysis (see Appendix F). An assessment of perceived benefit was based on the strength of support indicated by each of the data sources listed above. Examples of how the strength of evidence is weight include:

- supported by workforce data – high perceived benefit
- supported by strong literature evidence – high perceived benefit
- supported by moderate literature evidence – moderate perceived benefit
- supported by multiple stakeholder groups (e.g. peak bodies and recipients) – moderate perceived benefit, and
- weak literature evidence and limited stakeholder support – low perceived benefit.

The unit cost and of the perceived benefit were then compared for each program. This analysis generated an overall assessment of effectiveness for each program. See Table 7.1.

7 CONCLUSION AND OPTIONS FOR FUTURE DEVELOPMENT

Table 7.1: Unit costs and perceived program benefit

Package component	Total unit cost (annual)*	Unit cost rank	Perceived benefit	Rationale	Overall value assessment
Rural Workforce Package					
Recruitment Programs					
Rural Pharmacy Scholarship Scheme	\$10,618	Moderate	High	<ul style="list-style-type: none"> Strong literature support on the effectiveness of scholarships in encouraging rural practise among students with a rural origin. Approximately 50% of recipients go on to practise in a rural area, based on recipient survey findings. Strong stakeholder and recipient support. 	Moderate - High
Rural Pharmacy Scholarship Mentor Scheme	\$987	Small	Moderate	<ul style="list-style-type: none"> Moderate literature support on the positive effect of mentorship on retaining students in their studies (especially for Aboriginal and Torres Strait Islander students). Low stakeholder support, due to few peak body stakeholders and pharmacists consulted being aware of the program. 	Moderate
Rural Intern Training Allowance	\$1,170	Small	High	<ul style="list-style-type: none"> Strong literature support on the effectiveness of rural exposure (via an internship) on encouraging rural practise. Approximately 92% of recipients go on to practise in a rural area based on NHWDS data. Moderate stakeholder support weakened by the low number of interns consulted. 	High
Rural Pharmacy Student Placement Allowance#	\$1,696 (or \$40,390)	Small (Moderate)	Moderate	<ul style="list-style-type: none"> Strong literature support on the effectiveness of placements in encouraging rural practise. Low return rate, as an estimated 20% of recipients go on to practise in rural areas, based on recipient consultations. Strong stakeholder support 	Moderate
Other Support Programs					
Administrative Support to Pharmacy Schools#	\$1,426 (or \$33,959)	Small (Moderate)	Moderate	<ul style="list-style-type: none"> Strong literature support on the effectiveness of placements in encouraging rural practise. Low return rate as an estimated 20% of recipients go on to practise in rural areas, based on recipient consultations. Low stakeholder support due to few stakeholders being aware of the program or its objectives. 	Moderate
Rural Pharmacy Liaison Officer Program^	\$2,195 (or \$83,613)	Small (Large)	High	<ul style="list-style-type: none"> Strong literature support on the effectiveness of placements in encouraging rural practise. Low return rate, as an estimated 20% of recipients go on to practise in rural areas, based on recipient consultations. Strong stakeholder support from pharmacists and peak bodies. 	High
Retention Programs					

7 CONCLUSION AND OPTIONS FOR FUTURE DEVELOPMENT

Package component	Total unit cost (annual)*	Unit cost rank	Perceived benefit	Rationale	Overall value assessment
Rural Workforce Package					
Intern Incentive Allowance for Rural Pharmacies	\$10,593	Moderate	High	<ul style="list-style-type: none"> Strong literature support on the effectiveness of rural exposure (via internships) on encouraging rural practise. Estimated 92% return rate, based on NHWDS data Strong stakeholder support from pharmacists. 	Moderate – High
Intern Incentive Allowance for Rural Pharmacies – Extension Program	\$20,644	Moderate	High	<ul style="list-style-type: none"> Strong literature support on the effectiveness of rural exposure (via a graduate program) on encouraging rural practise. Estimated 92% return rate, based on NHWDS data. Strong stakeholder support from pharmacists. 	Moderate – High
Continuing Professional Education Allowance	\$1,932	Small	Moderate	<ul style="list-style-type: none"> Moderate literature support on the effectiveness of CPE access in supporting rural workforce Strong stakeholder support from pharmacists and peak bodies. 	Moderate
Emergency Locum Service	\$3,346	Small	Moderate	<ul style="list-style-type: none"> Limited literature supporting the effectiveness of emergency locums in supporting rural workforce Moderate stakeholder support Strong support from users of the service 	Moderate
Aboriginal and Torres Strait Islander Workforce Package					
Culturally Appropriate Access Programs					
Aboriginal and Torres Strait Islander Pharmacy Scholarship Scheme	\$19,098	Moderate	Moderate	<ul style="list-style-type: none"> Moderate literature support on the effectiveness of scholarships in supporting Aboriginal and Torres Strait Islander students. Low stakeholder support due to few stakeholders being aware of the program and the lack of apparent community consultation. 	Moderate
Aboriginal and Torres Strait Islander Pharmacy Assistant Traineeship Scheme	\$14,098	Moderate	Unable to determine	<ul style="list-style-type: none"> Limited literature or data available to assess contribution to the workforce. Insufficient survey responses to determine perceived benefit. Moderate to low support from stakeholders, due to a lack of awareness among stakeholders and the lack of apparent community consultation. 	Unable to determine

* Dollar figures are rounded to the nearest whole dollar figure.

^Unit cost for RPLO is based on the number of student placements (or the number of officers in brackets).

#Unit cost is based on number of student placements (or number of contracted universities in brackets)

7 CONCLUSION AND OPTIONS FOR FUTURE DEVELOPMENT

7.2 ALTERNATIVE MODELS OF SERVICE DELIVERY

Addressing pharmacist shortages is only one avenue to improve access to medicines in rural and remote areas. Alternative models of service delivery for remote locations already exist, such as the provision of medicines in ACCHOs through the Remote Area Aboriginal Health Service Program. In addition, there are emerging models of care that have the potential to impact on medicines access. For example, in 2014, the National Rural Health Alliance prepared a discussion paper on access to medicines and pharmacy services in rural and remote Australia. In this paper, alternative models of service delivery were discussed, such as removing legislative requirements that tie dispensing and counselling to a registered location, in favour of pharmacy outposts that could increase the potential for pharmacists to improve the quality of access in remote locations. [6]

Similarly, in a position statement prepared by the Pharmaceutical Society of Australia (PSA) in 2010, it was suggested (among other advice) that:

- a model of practice be developed that allows pharmacists in rural and remote locations to deliver an appropriate range of services to the community
- remote health clinics be registered as pharmacy outstations, so that pharmacists may dispense in these locations
- appropriately credentialed pharmacy technicians be allowed to provide Pharmacist Only Medicines and dispense Prescription Only Medicines under a pharmacist's supervision through video conference or at remote depots/outstations, and
- modifications to the requirement for a pharmacist to be present at the pharmacy while open be considered for single-pharmacy locations. [7]

A review of alternative models of service delivery is beyond the scope of this evaluation on pharmacy workforce programs. However, the workforce requirements need to be considered in reviewing existing and emerging alternative models of service delivery.

Key Finding 29:	Alternative models of service delivery, in addition to / or as an alternative, may need to be considered to maximise access to PBS medicines in rural and remote locations.
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7.3 OPTIONS FOR FUTURE DEVELOPMENT

Looking at options for future development of the Pharmacy Workforce Program, it is necessary to acknowledge the broader context in which these programs operate, while appreciating the actual benefit they may offer to individual recipients.

Many other concurrently operating programs target improved access to PBS medicines, especially in remote locations. These programs may reduce the need for rural workforce parity with major cities. However, the relationship with these programs was not in-scope for this evaluation.

Based on the evaluation findings of the individual programs (see Volume 2, *Detailed Analysis of Workforce Programs*) and of the overall impact of the package components (as discussed in this report), we propose that consideration be given to several options for future development:

- **Option 1:** keep existing programs with minor modifications to improve functionality
- **Option 2:** remove PhARIA 1 restrictions to existing programs to improve the Pharmacy Workforce program's reach in regional areas
- **Option 3:** moderate restructure to include additional workforce program types, while retaining some or all of the existing programs, or
- **Option 4:** major restructure to cease all existing program and use funds to enhance the level of workforce support pharmacists in targeted geographic areas (possibly prioritised on the basis of rurality).

The pros and cons of each are discussed below.

7 CONCLUSION AND OPTIONS FOR FUTURE DEVELOPMENT

Option 1: Minor modifications to existing programs

Data analysis and consultation activities revealed a number of limitations with the programs in their current state. These ranged from program-specific issues including restrictive eligibility criteria, inflexible program rules that hamper or limit program take-up, and administration issues.

These program-specific options are summarised in Table 7.2

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Table 7.2: Options for improved Pharmacy Workforce Program Operations

Program	Modification suggested for consideration	Pros	Cons	Expected result
Rural Pharmacy Workforce Programs				
Rural Pharmacy Scholarship Scheme	(1) Embed a one-year Return of Service Obligation period in a rural pharmacy for all scholarship recipients.	<ul style="list-style-type: none"> In line with 'higher value scholarships' of the Health Workforce Scholarship Program. Supported by peak body stakeholders and scholars. 	<ul style="list-style-type: none"> Not in line with other scholarship schemes including the Nursing and Allied Health Scholarship and Support Scheme. Not supported by the literature. 	Increase in the number of scholarship recipients returning to a rural area once qualified, but may not result in a sustained commitment (because of the perceived obligation to comply)
	(2) Linking the scholarship to the Intern Incentive Allowance for Rural Pharmacies to guarantee a rural internship for scholarship recipients.	<ul style="list-style-type: none"> Increases rural exposure and professional networking for scholarship recipients. 	<ul style="list-style-type: none"> Scholarship recipients have rural experience. Intern Incentive may impact more interns if provided to those without rural experience. 	Possible increase in the number of scholarship recipients remaining in a rural area once qualified.
Rural Pharmacy Scholarship Mentor Scheme	(3) Linking the Mentor Scheme with the Intern Incentive Allowance for Rural Pharmacies to support mentors being able to offer placements to scholarship recipients.	<ul style="list-style-type: none"> As above Improved capacity to track the future internship and practice locations of scholarship recipients. 	<ul style="list-style-type: none"> As above 	<ul style="list-style-type: none"> As above
Rural Intern Training Allowance	(4) Removal of the 500-kilometre cap on funded distance travelled.	<ul style="list-style-type: none"> Removes disadvantage experienced by remote interns who cannot afford / choose not to purchase airfares to attend training. Supported by interns. 	<ul style="list-style-type: none"> Increased claims and potentially higher outlays per claim 	<ul style="list-style-type: none"> Increased support for remote interns.
	(5) Providing a tiered stipend for intern travel rather than reimbursement.	<ul style="list-style-type: none"> Reduces out of pocket expenses for interns on a low wage. Acknowledges increasing costs with increasing remoteness. Does not significantly increase administration burden or cost. Supported by interns. 	<ul style="list-style-type: none"> May increase the overall program cost as interns in more remote areas will require more funding. 	<ul style="list-style-type: none"> Improved support for interns, especially in remote locations.

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Program	Modification suggested for consideration	Pros	Cons	Expected result
Rural Pharmacy Student Placement Allowance	(6) Increased regularity of the timing of program funding (i.e. at the start of the calendar year).	<ul style="list-style-type: none"> Universities receive funding in a timely manner to inform the number of placements offered. Students do not miss out on funding. Supported by placement coordinators. 	<ul style="list-style-type: none"> None identified. 	<ul style="list-style-type: none"> Improved program delivery within contracted universities.
	(7) Allowance for students undertaking longer placements (e.g. 6 weeks or more) to access funding in excess of the \$3,000 cap.	<ul style="list-style-type: none"> Increased student capacity to undertake longer placements. Longer placements increase rural exposure, which is associated with increased intention to practise rurally. Supported by students, RPLOs and placement coordinators. 	<ul style="list-style-type: none"> May increase the total program cost, as students undertaking longer placements will require additional funding. 	<ul style="list-style-type: none"> Improved support for students on longer placements.
Continuing Professional Educational Allowance	(8) Simplifying the application process.	<ul style="list-style-type: none"> Supported by pharmacists. May reduce administration burden for The Guild. 	<ul style="list-style-type: none"> Will require revision of the online application portal and existing protocols which may be costly and time-consuming for The Guild. 	<ul style="list-style-type: none"> Improved support for pharmacists accessing CPE. Increase in demand for CPE Allowances.
	(9) Inclusion of an allowance to help cover locum travel or wages to help the pharmacist attend CPE.	<ul style="list-style-type: none"> Supported by pharmacists 'on the ground' May be addressed by changes to the Emergency Locum Service eligibility criteria. 	<ul style="list-style-type: none"> May increase the cost of the program. 	<ul style="list-style-type: none"> As above. Increased demand for the Emergency Locum Service.
	(10) Providing tiered funding caps to distribute more funding to remote pharmacists.	<ul style="list-style-type: none"> Supported by pharmacists. Acknowledges increasing costs with increasing remoteness. 	<ul style="list-style-type: none"> May increase the cost of the program. 	<ul style="list-style-type: none"> Improved support for remote pharmacists accessing the CPE program
	(11) Providing CPE Allowance as an upfront per diem rather than as a cost-reimbursement.	<ul style="list-style-type: none"> Supported by pharmacists. Reduces out-of-pocket expenses for pharmacists. Ensures pharmacists receive a CPE allowance. May reduce administration burden. 	<ul style="list-style-type: none"> May increase the cost of the program. Per diem may not reflect actual costs. Processes to ensure event attendance may be required. 	<ul style="list-style-type: none"> Improved support for pharmacists accessing CPE. Increase in demand for CPE Allowances.

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Program	Modification suggested for consideration	Pros	Cons	Expected result
	(12) Placing a limit on the number of claims that can be made per pharmacist.	<ul style="list-style-type: none"> Reduces inequity of multiple claims per pharmacist. New software or system will help streamline the application process. 	<ul style="list-style-type: none"> Will require investment in appropriate software or systems to track the number of claims per pharmacist. 	<ul style="list-style-type: none"> Increase in the number of pharmacists assisted under the program.
Emergency Locum Service	(13) Improve clarity and transparency of eligibility criteria.	<ul style="list-style-type: none"> Supported by pharmacists 'on the ground'. 	<ul style="list-style-type: none"> None identified. 	<ul style="list-style-type: none"> Will align pharmacists' expectations with Emergency Locum Service offerings and reduce confusion.
	(14) Funding of accommodation costs for locums travelling to remote areas.	<ul style="list-style-type: none"> Supported by pharmacists. Removes disadvantage experienced by remote pharmacists. 	<ul style="list-style-type: none"> Will increase the cost of the program. 	<ul style="list-style-type: none"> Increased support to remote pharmacists accessing the Emergency Locum Service.
Intern Incentive Allowance for Rural Pharmacies and Extension Program	(15) Increase allowance value to reflect increased cost of employing an intern / graduate in a rural or remote area.	<ul style="list-style-type: none"> Supported by pharmacists 'on the ground'. Acknowledges the need for pharmacists to offer interns / graduates higher salaries to attract them to rural areas. 	<ul style="list-style-type: none"> Will increase the cost of the program. 	<ul style="list-style-type: none"> Increased support to pharmacy employers.
Rural Pharmacy Liaison Officer Program	(16) Removal of the RPLO Program from the 6CPA and redirecting funding and administrative responsibility to University Departments of Rural Health.	<ul style="list-style-type: none"> Supported by RPLOs, UDRHs and some peak body stakeholders. Provide greater professional stability for RPLOs who currently only have tenure under 12-month contracts Align RPLO objectives with the objectives of the Rural Health Multidisciplinary Training Program. 	<ul style="list-style-type: none"> A change in program governance may impact program scope and the role of RPLOs. Debates over where the transfer should be funded from government general revenue or the CPA 	<ul style="list-style-type: none"> Increased recruitment and retention of RPLOs at UDRH sites.
Administrative Support to Pharmacy Schools	(17) None identified.	<ul style="list-style-type: none"> None identified. 	<ul style="list-style-type: none"> None identified. 	<ul style="list-style-type: none"> None identified.
Aboriginal and Torres Strait Islander Workforce Programs				

7 CONCLUSION AND OPTIONS FOR FUTURE DEVELOPMENT

Program	Modification suggested for consideration	Pros	Cons	Expected result
Aboriginal and Torres Strait Islander Pharmacy Assistant Traineeship Scheme	(18) Link with the Rural Pharmacy Scholarship Mentor Scheme to provide mentor support for trainees.	<ul style="list-style-type: none"> Supported by peak body stakeholders and literature. Expansion of an existing program. 	<ul style="list-style-type: none"> Will increase the cost of the Mentor Scheme with more participating mentors. 	<ul style="list-style-type: none"> Pharmacy assistants feel supported and are more likely to be retained.
	(19) Undertake consultations with Aboriginal and Torres Strait Islander communities and peak body stakeholders (i.e. the National Aboriginal Community Controlled Health Organisation, NACCHO) to assess whether the program meets the needs of the community.	<ul style="list-style-type: none"> Best practice approach in developing and implementing programs to support Aboriginal and Torres Strait Islander individuals and communities. Support from communities and peak body organisations may increase awareness and access to the program. 	<ul style="list-style-type: none"> None identified. 	<ul style="list-style-type: none"> The program better meets the needs of Aboriginal and Torres Strait Islander communities. Increase awareness and access to the program.
Aboriginal and Torres Strait Islander Pharmacy Scholarship Scheme	(20) Increase the number of scholarships offered each year.	<ul style="list-style-type: none"> May lead to increased registrations of Aboriginal and Torres Strait Islander pharmacists. 	<ul style="list-style-type: none"> Will increase the cost of the program. 	<ul style="list-style-type: none"> Increase in the number of qualified Aboriginal and Torres Strait Islander pharmacists.
	(21) Supplement Scheme with a pathway program to assist students without the requisite academic score to access alternate entry to university.	<ul style="list-style-type: none"> Builds capacity of Aboriginal and Torres Strait Islander students. 	<ul style="list-style-type: none"> Will require investigation to identify any existing pathway schemes or additional funding to implement a new support scheme. 	<ul style="list-style-type: none"> Increase in the number of Aboriginal and Torres Strait Islander students enrolled in a pharmacy course.
	(22) Undertake consultations with Aboriginal and Torres Strait Islander communities and peak body stakeholders (i.e. NACCHO) to assess whether the program meets the needs of the community.	<ul style="list-style-type: none"> Best practice approach in developing and implementing programs to support Aboriginal and Torres Strait Islander individuals and communities. Support from communities and peak body organisations may increase awareness and access to the program. 	<ul style="list-style-type: none"> None identified. 	<ul style="list-style-type: none"> The program better meets the needs of Aboriginal and Torres Strait Islander communities. Increase awareness and access to the program.

7 CONCLUSION AND OPTIONS FOR FUTURE DEVELOPMENT

Option 2: Removal of PhARIA restrictions

PhARIA is a tool used to determine rural and remote location eligible for the Pharmacy Workforce Programs. PhARIA is a composite index incorporating the geographic distance from major cities determined by the Accessibility / Remoteness Index for Australia (ARIA) and a professional isolation component represented by the road distance to the five closest pharmacies. [8]

The use of the PhARIA to classify eligible rural locations has resulted in complications for a number of programs, including the Rural Pharmacy Scholarship Scheme, the Rural Pharmacy Student Placement Allowance, the Rural Intern Incentive Program, the Continuing Professional Education Allowance and the Intern Incentive Allowance for Rural Pharmacies and Extension Program. Several of these programs aim to alleviate the financial burden experienced by pharmacy students or pharmacists who must travel to attend training or other professional experiences. Applying the PhARIA system to these programs excludes pharmacists or students travelling between PhARIA 1 locations in regional areas and major cities. As a consequence, pharmacy staff in inner regional areas are often excluded from benefitting from the Pharmacy Workforce Program because of the application of the PhARIA 2 or higher location rule. PhARIA 1 locations are excluded, even though some of these locations may experience significant workforce shortages.

Other options for determining rurality of an applicant could include the *Modified Monash Model*, which was developed recently and will be adopted by the Department of Health for other health workforce programs including the Bonded Medical Places Scheme. [9] The Modified Monash Model is based on geographic remoteness and population data and is considered to be more up-to-date than other models including the ARIA or the Australian Statistical Geographic Standard – Remoteness Areas (ASGC – RA).

Option 3: Moderate restructure of programs

A moderate restructure of programs would allow for the inclusion of different types of workforce programs to further assist workforce growth in rural and remote areas.

Existing recruitment programs only target new graduates. Consequently, other avenues for potential recruits, such as qualified pharmacists in major cities or overseas trained pharmacists, have not been explored.

Relocation grants are one type of program used by other health professions to attract qualified staff to move from major cities, or even from inner / outer regional areas to more remote locations. Until July 2015, GPs were able to access a relocation program, which may have contributed to the relative high FTE rate of GPs in remote areas. Similarly, since July 2013 and until recently, dentists were able to access relocation and infrastructure grants to move to rural areas. This program correlated with significant growth in the dentistry workforce in rural and remote areas between 2013 and 2015.

Additionally, GP incentive programs include incentives for overseas trained GPs to work in remote or difficult-to-recruit locations. If workforce shortages continue to be a barrier to medicine access in remote locations, a similar program for overseas trained pharmacists could be an option for consideration.

Other types of retention programs could also be explored such as assistance with small business operations (e.g. accounting, new infrastructure), assistance or flexible legislation for single pharmacist areas or professional networking opportunities. Expansion and modification to existing retention programs could also result in additional activity as discussed in options 1 and 2.

Increasing the capacity of the RPLOs to include greater support for the existing workforce may ease challenges experienced by pharmacists in rural and remote locations (at present, program rules require RPLOs to support students on placements coordinated through UDRHs).

Significant investment in additional programs and program modification could be required to implement any of the changes referred to in Option 3.

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Option 4: Major restructure of programs

A major restructure of the Pharmacy Workforce Programs would be to cease existing programs, and divert all current investment into a program that could provide greater support pharmacists in targeted geographic locations, e.g. outer regional or remote areas. The funding could be tiered based on rurality to reflect the additional challenges and costs associated with working in these locations. One mechanism to implement this type of model would be to merge the funds into the existing Rural Pharmacy Maintenance Allowance.

However, as the funding for the Pharmacy Workforce Programs is relatively small, the effect of such a restructure would be minimal at the individual pharmacy level. It could also create frustration for many pharmacists who would no longer receive access to allowances such as the CPE Allowance (the Rural Pharmacy Maintenance Allowance is paid to pharmacy owners).

A final variant under option 4 would be to substantially increase the value of individual payments under each of the programs, e.g. double the value of a student scholarship or mentorship payments. This would require a substantial investment of funds but the consequent increased take-up could lead to willingness of the pharmacy workforce to work or remain in rural and remote areas.

7.4 CONCLUSION

The Pharmacy Workforce Programs have had a negligible impact at a macro level when measured against growing the rural and remote pharmacy workforce. However, they are perceived to be useful by individual recipients and this may have slowed a potential decline in rural pharmacist numbers at the margin. In order for the Pharmacy Workforce Package to have a greater impact on the rural and remote

pharmacy workforce, a greater investment is required. Additionally, modifications to the programs could be made:

- via minor adjustments (see Option 1), or
- through a major restructure that would improve program effectiveness and reach.

Alternatively, consideration could be given to a major change in the value of individual grant values.

8 APPENDICES

APPENDIX A HISTORICAL EVOLUTION OF PROGRAM OBJECTIVES

Objectives of the Pharmacy Workforce Programs at a Package Level – Historical Evolution

The main elements of the Pharmacy Workforce Programs were first implemented under the Third Community Pharmacy Agreement (3CPA) in 2000 and were then known as the Rural Pharmacy Workforce Development Programs. The objective at that time at a package level was described as being to:

‘increase access to community pharmacies for persons in rural and remote regions of Australia’

In order to achieve this objective, the Rural Pharmacy Workforce Development Program was established. It was stated in the 3CPA that:

‘A range of initiatives [will be implemented] to address the shortage of pharmacists in rural areas [including] an emergency locum scheme; a rural and remote pharmacy infrastructure scheme; an increase in scholarships for pharmacy students from rural and remote areas; funding for pharmacy academic positions in university Departments of Rural Health; expansion of the existing scheme of Continuing Pharmacy Education to improve access for rural and remote pharmacists; and the identification and recruitment of pharmacists with an Aboriginal or Torres Strait Island background.’ [HMA bolding emphasis]

The 3CPA did not contain objectives for the individual programs.

This situation continued for the Fourth and Fifth Agreements, but with a refinement at the package level that referred to increasing access to community pharmacy services. In 2005, the 4CPA Rural Pharmacy Workforce Programs were a

priority under the Rural Pharmacy Allowance and Support component of the Agreement. The aim was described as to:

‘Maintain and improve access to quality community pharmacy services for the community in rural and remote areas of Australia and to increase the proportion of the total pharmacy workforce starting practice in rural and remote Australia and staying in rural and remote practice for at least five years.’ [HMA bolding emphasis]

This objective was maintained without change in the 5CPA in 2010.

In 2015, the 6CPA objectives for the Rural Workforce Package was to:

‘fund a range of initiatives designed to strengthen and support the rural pharmacy workforce, in turn to provide increased access to quality pharmacy services for consumers residing in rural and remote regions of Australia’.

Objectives of the Aboriginal and Torres Strait Islander Specific Package – Historical evolution

In 2000, the 3CPA stated the following objective for the Aboriginal and Torres Strait Islander Specific Package components:

‘a focus on achieving continued improvement in community pharmacy services provided to Aboriginal and Torres Strait Islander people’.

In 2005, the 4CPA introduced *Aboriginal and Torres Strait Islander Access* as a priority area, which aimed to

improve access to community pharmacy services by Indigenous Australians by taking account of cultural issues in meeting Indigenous health needs.

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This saw the introduction of the Aboriginal and Torres Strait Islander Undergraduate Pharmacy Scholarship Scheme and the Aboriginal and Torres Strait Islander Pharmacy Assistant Scholarship Scheme.

In 2010, the 5 CPA maintained the objectives for *Aboriginal and Torres Strait Islander Programs* and maintained *Aboriginal and Torres Strait Islander Workforce* as a priority alongside Section 100 and QUM programs.

In 2015, the 6CPA objectives for the Aboriginal and Torres Strait Islander Workforce Package was to:

'fund a range of initiatives designed to strengthen and support the [Aboriginal and Torres Strait Islander] pharmacy workforce, which in turn will provide improved, culturally-appropriate pharmacy services for [Aboriginal and Torres Strait Islander] consumers'.

8 APPENDICES

APPENDIX B OTHER INFLUENCING PROGRAMS

Rural Pharmacy Maintenance Allowance

The Rural Pharmacy Maintenance Allowance (RPMA) recognises the additional financial burden of maintaining a pharmacy in rural and remote areas of Australia. A monthly allowance is paid to eligible pharmacy owners. The amount of the allowance ranges from approximately \$5,000 to over \$45,000 per annum, calculated annually, based on the remoteness of the pharmacy (according to the Pharmacy Accessibility Remoteness Index of Australia, PhARIA), and the volume of prescriptions processed. The allowance is payable to eligible proprietors of pharmacies approved under section 90 of the National Health Act 1953. [10]

QUMAX

The Quality Use of Medicines Maximised for Aboriginal and Torres Strait Islander Peoples (QUMAX) Program is a support initiative that aims to improve health outcomes for Aboriginal and Torres Strait Islander people at participating Aboriginal Community Controlled Health Services (ACCHSs). The QUMAX Program focuses on QUM support services provided by participating ACCHS and community pharmacies in rural and urban Australia. The support services include:

- dose administration aids arrangements with participating community pharmacies
- pharmacy support, e.g. QUM planning, policies, protocol development, medicine quality assurance and appropriate Safety Net utilisation
- reducing the cultural and logistical barriers to accessing home medication reviews for ACCHS clients
- QUM devices
- education and training for ACCHS employees
- cultural awareness training for community pharmacists and other community pharmacy staff, and
- transport support to access medicines and community pharmacy services. [10]

Remote Area Aboriginal Health Service

The Remote Area Aboriginal Health Service (RAAHS) Program is administered under Section 100 of the National Health Act 1953. RAAHS allows for the supply of PBS medicines to clients of eligible remote area Aboriginal and Torres Strait Islander community controlled health organisations (ACHHOs) at the time of medical consultation without the need for a normal prescription form, and without charge. The Program aims to address identified barriers experienced by Aboriginal and Torres Strait Islander people living in remote areas of Australia in accessing essential medicines through the PBS. [11]

Section 100 Support Allowance

The Section 100 (s100) Support Allowance Program aims to improve health outcomes for clients of remote area Aboriginal Health Services (AHS) who participate in the special PBS medicines supply arrangements approved under Section 100 of the National Health Act 1953. [10] The allowance supports visits by pharmacists to provide a range of targeted QUM and medication management support services to remote area AHSs who participate in the RAAHS Program. The Program aims to improve QUM through pharmacist visits and advice. [11]

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APPENDIX C ADDITIONAL PHARMACISTS REQUIRED IN REGIONAL AREAS TO ACHIEVE PARITY – MAGNITUDE ESTIMATION TECHNIQUE

Table 8.1: Average FTE rate (per 100,000 population) of total and community pharmacists by location type, 2013–15

Location type	Total Pharmacists		Community Pharmacists	
	Avg FTE rate (2013–15)	Ratio to major city	Avg FTE rate (2013–15)	Ratio to major city
Major cities	78.6	1.0	54.1	1.0
Inner regional	51.8	0.96	51.8	0.96
Outer regional	50.6	0.94	50.6	0.94
Remote	41.6	0.77	41.6	0.77
Very remote	26.4	0.49	26.4	0.49

Source: National Health Workforce Dataset (NHWDS) 2013–2015, averaged over the three years

Table 8.2: Average FTE rate (2013–15) and calculations to bring non-metropolitan areas to parity with major cities – total pharmacists

Location type	A: FTE rate per 100,000 population*	B: Calculated FTE rate required for parity	C: Population [^]	D: Calculated FTE required for parity (total pharmacists)
	-	A1 - Ax	-	B*C/100,000~
Major cities	79	0	16,586,819	0
Inner regional	65	14	4,259,400	575
Outer regional	63	16	2,077,110	318
Remote	55	24	321,789	77
Very remote	34	45	206,823	92
Total				1,062

*Source: National Health Workforce Dataset (NHWDS) 2013–2015, averaged over the three years

[^]Source: ABS - 3218.0 - Regional Population Growth (2013–2015), averaged over the three years

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: Average FTE rate (2013–15) and calculations to bring non-metropolitan areas to parity with major cities – community pharmacists

Location type	A: Community pharmacist FTE rate per 100,000 population*	B: Calculated community pharmacist FTE rate required for parity	C: Population [^]	D: Calculated community pharmacist FTE required for parity
	-	A1 - Ax	-	B*C/100,000
Major cities	54.1	0	16,586,819	0
Inner regional	51.8	2	4,259,400	97
Outer regional	50.6	4	2,077,110	73
Remote	41.6	12	321,789	40
Very remote	26.4	28	206,823	57
Total				267

*Source: National Health Workforce Dataset (NHWDS) 2013–2015, averaged over the three years

[^]Source: ABS - 3218.0 - Regional Population Growth (2013–2015), averaged over the three years

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APPENDIX D COMPARATOR WORKFORCE PROGRAMS

GP Rural Workforce Program

The GP workforce is well supported by several rural incentive schemes, which appear to have succeeded in increasing regional, rural and remote FTE rates. Rural GP incentives include:

- **GP Rural Incentive Program** provides automatic top-ups to MBS billed items for GPs working in rural and remote areas. Top-ups are calculated on the remoteness of the area and the number of years spent working in the area. GPs who have worked in a rural and remote location for five or more years could receive maximum top-ups of \$12,000 to \$60,000 per annum, depending on remoteness. [12]
- **Rural Relocation Incentive Grant** (ceased in July 2015) provided \$7,500 to \$60,000 per annum for two years (depending on relocation distance). [13]
- **Bonded Medical Places Scheme** provides subsidised medical undergraduate places for a 'return of service' period in rural and remote areas (valued at over \$26,000 per annum [14]).
- **Five-Year Overseas Trained Doctor Scheme** allows a reduction in the 10-year moratorium (to five years) for overseas trained doctors if they work in remote or difficult-to-recruit locations. [15]
- **Rural and Remote General Practice Program** provides funding to Rural Workforce Agencies in each state and the Northern Territory to provide a range of activities and support to improve the recruitment and retention of GPs to rural and remote areas. [16]
- Grants to support training and education such as the Support for Rural Specialists in Australia and the Rural Locum Assistance Program. [15]
- Numerous scholarship or placement programs, such as the Rural Australia Medical Undergraduate Scholarship and the John Flynn Placement Program [17].

Dental Relocation and Incentive Support Scheme

The National Dental Relocation Incentive and Support Scheme commenced in July 2013. The scheme offers relocation grants of up to \$120,000 (based on distance relocated) and infrastructure grants of up to \$250,000 to assist in the purchase and fit-out of dental facilities and equipment. The Department of Health has committed \$57.5m over three financial years (2016–2019) for the scheme. [18]

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APPENDIX E UNIT COST OF PHARMACY WORKFORCE PROGRAMS

Unit cost of workforce programs (averaged for 2013–14 and 2014–25 financial years)

Program	Volume	Direct unit cost (annual)	Overhead contribution	Total unit cost (annual)	Total cost per program	Total program cost as proportion of total investment
Recruitment Programs						
Rural Pharmacy Scholarship Scheme*	98.75	\$10,000.00	\$618.14	\$10,618.14	\$1,048,537.41	18.7%
Rural Pharmacy Scholarship Mentor Scheme*	105.5	\$375.00	\$612.03	\$987.03	\$104,132.17	1.9%
Rural Intern Training Allowance	184.5	\$458.07	\$711.52	\$1,169.60	\$215,685.94	3.9%
Rural Pharmacy Student Placement Allowance#	381 (or 16)	\$39,761.72	\$627.96	\$1,696.15 (or \$40,389.68)	\$646,234.87	11.5%
Other Support Programs						
Administrative Support to Pharmacy Schools#	381 (or 16)	\$33,331.38	\$627.96	\$1,426.11 (or \$33,959.33)	\$543,349.31	9.7%
Rural Pharmacy Liaison Officer Program^	381 (or 10)	\$82,906.90	\$706.45	\$2,194.58 (or \$83,613.35)	\$836,133.52	14.9%
Retention Programs						
Intern Incentive Allowance for Rural Pharmacies	75	\$10,000.00	\$592.77	\$10,592.77	\$794,471.82	14.2%
Intern Incentive Allowance for Rural Pharmacies - Extension Program	9	\$20,000.00	\$643.66	\$20,643.66	\$185,792.90	3.3%
Continuing Professional Education Allowance	388	\$842.46	\$1,089.04	\$1,931.50	\$749,264.00	13.4%
Emergency Locum Service	50	\$2,661.98	\$683.61	\$3,345.59	\$165,814.38	3.0%

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Program	Volume	Direct unit cost (annual)	Overhead contribution	Total unit cost (annual)	Total cost per program	Total program cost as proportion of total investment
Programs to enhance access to culturally appropriate services						
Aboriginal and Torres Strait Islander Pharmacy Scholarship Scheme	6.75	\$15,000.00	\$4,098.36	\$19,098.36	\$129,179.21	2.3%
Aboriginal and Torres Strait Islander Pharmacy Assistant Traineeship Scheme	13	\$10,000.00	\$4,098.36	\$14,098.36	\$177,972.79	3.2%
Total Program investment					\$5,596,568.32	100.0%

*Volume for scholarships and mentorship is based on the number of active scholarships per year (not the annual intake)

^Volume for RPL.O is the number of student placements (in brackets is the number of officers)

#Volume is the number of student placements (in brackets is the number of Universities)

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APPENDIX F RANK CORRELATION ANALYSIS SCORES

Rank correlation is an evaluation technique used to compare the value for money of activities with different objectives. Pharmacists consulted as part of the evaluation process during case study visits were asked to rank the Pharmacy Workforce Programs according to their personal assessment of effectiveness.

The scores the community pharmacists were asked to apply a score to perceived value of the unit cost of each of the 12 programs on a Likert scale with a range of 1 to 5, where a score of 1 = *not effective* and 5 = *extremely effective*.

There was a total of 28 respondents. The following table presents individual pharmacists' score of the perceived value, and the combined total scores. This shows that pharmacists considered the Intern Incentive Allowance for Rural Pharmacies, the Continuing Professional Education Allowance and the Rural Pharmacy Liaison Officer Program to be the highest value for money programs.

Scores for rank correlation analysis

Program	Respondent scores																											Total	
Intern Incentive Allowance for Rural Pharmacies	5	5	5	3	5	4	3	4	4	5	5	5	3	2	5	4	5	3	5	5	2	4	4	4	4	3	0	3	109
Continuing Professional Education Allowance	5	5	4	4	5	5	5	4	5	5	2	5	3	2	2	0	5	2	5	5	3	4	5	3	3	4	5	4	109
Rural Pharmacy Liaison Officer Program	5	5	4	4	5	5	5	5	4	4	5	5	2	2	4	0	0	3	5	5	4	0	5	5	5	4	5	4	109
Extension Program	5	5	5	5	5	4	3	0	0	5	5	4	2	0	5	4	5	3	5	5	3	4	4	4	4	3	0	3	100
Rural Pharmacy Scholarship Scheme	5	3	5	5	5	5	5	0	4	5	0	4	3	2	5	0	0	3	4	5	0	4	3	5	5	4	4	3	96
Rural Pharmacy Student Placement Allowance	5	0	5	4	5	5	5	0	0	5	0	5	2	2	5	4	5	3	5	5	4	2	3	4	4	0	2	4	93
Rural Intern Training Allowance	0	4	5	3	0	5	5	0	0	4	5	4	3	1	5	0	5	3	5	5	2	4	2	2	1	0	4	2	79
Aboriginal and Torres Strait Islander Pharmacy Assistant Traineeship Scheme	5	2	3	0	5	4	2	0	0	0	5	2	0	0	5	0	0	0	5	4	0	1	2	4	3	3	0	0	55
Administrative Support to Pharmacy Schools	5	1	0	0	3	2	3	0	0	0	0	2	4	0	0	3	0	2	4	2	0	0	5	2	4	0	0	0	42
Aboriginal and Torres Strait Islander Scholarship Scheme	5	2	4	0	5	4	2	0	0	0	0	2	0	0	0	0	0	0	5	3	0	1	2	3	3	0	0	0	41
Emergency Locum Service	4	1	0	0	0	0	2	0	0	4	5	0	3	0	2	0	2	3	4	5	0	1	2	1	1	0	0	1	41
Rural Pharmacy Scholarship Mentor Scheme	2	0	3	0	0	4	0	0	0	1	0	0	2	0	5	0	0	3	0	4	0	2	3	1	1	2	0	1	34

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APPENDIX G REFERENCES

- [1] D. Tune, “Evaluation: Renewed Strategic Emphasis,” Department of Finance and Deregulation, <http://www.finance.gov.au/sites/default/files/speaking-notes-for-David-Tune-presentation-18-08-2010.pdf>, 2010.
- [2] Healthcare Management Advisors, *Addition*.
- [3] Australian Institute of Health and Welfare, “Pharmacy workforce - detailed tables,” 2014. [Online]. Available: <http://www.aihw.gov.au/workforce/pharmacy/>.
- [4] Australian Health Practitioner Regulation Agency, *Pharmacy workforce data [unpublished]*, Melbourne: AHPRA, 2015.
- [5] Australian Bureau of Statistics, *Counts of Aboriginal and Torres Strait Islander Australians, Cat. No. 2075.0*, Canberra: ABS, 2011.
- [6] National Rural Health Alliance, “Access to medicines and pharmacy services in rural and remote Australia,” 2014.
- [7] Pharmaceutical Society of Australia, “POSITION STATEMENT ON IMPROVING ACCESS TO PHARMACY SERVICES IN RURAL AND REMOTE AREAS,” 2010.
- [8] University of Adelaide, “Pharmacy ARIA - PhARIA,” 3 July 2017. [Online]. Available: <https://www.adelaide.edu.au/apmrc/research/projects/pharia/>. [Accessed 1 August 2017].
- [9] Department of Health, “Modified Monash Model,” 06 June 2016. [Online]. Available: <http://www.health.gov.au/internet/main/publishing.nsf/content/modified-monash-model>. [Accessed 1 August 2017].
- [10] Department of Health, “Pharmacy information for consumers,” 18 Feb 2016. [Online]. Available: <http://www.health.gov.au/internet/main/publishing.nsf/Content/consumer-pharmacy>. [Accessed 2017].
- [11] Department of Health, for consumers, “Health System Effectiveness and Clinically Appropriate Care,” 5 July 2013. [Online]. Available: <http://www.health.gov.au/internet/publications/publishing.nsf/Content/natsihp-companion-toc~invest-enablers~approp-care>. [Accessed 2017].
- [12] Department of Health, “General Practice Rural Incentive Program Guidelines,” 30 June 2017. [Online]. Available: http://www.health.gov.au/internet/main/publishing.nsf/content/general_practice_rural_incentives_programme-programme-guidelines. [Accessed 2017].
- [13] ESS BIZTOOLS Pty Ltd, “AUSTRALIAN GOVERNMENT GRANTS AND ASSISTANCE - RURAL RELOCATION INCENTIVE GRANT FOR MEDICAL PRACTITIONERS, Paper 014-154,” 2013.
- [14] Department of Health, “Medical Rural Bonded Scholarship (MRBS) Scheme 2015,” 6 March 2017. [Online]. Available: <http://www.health.gov.au/mrbscholarships>. [Accessed 2017].
- [15] Rural Health Workforce Australia, “5 Year Overseas Trained Doctor Scheme,” [Online]. Available: <http://www.rhwa.org.au/5-year-otd-scheme>. [Accessed 2017].

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- [16] Department of Health , “Rural and Remote General Practice Program,” 22 August 2012. [Online]. Available: <http://www.health.gov.au/internet/main/publishing.nsf/content/work-pr-rrgpp>. [Accessed 2017].
- [17] John Flynn Placement Program , [Online]. Available: <https://www.jfpp.com.au/>. [Accessed 2017].
- [18] Department of Health , “Dental Relocation and Infrastructure Support Scheme,” 19 April 2016. [Online]. Available: <http://www.health.gov.au/internet/main/publishing.nsf/Content/work-st-driss>. [Accessed 2017].
- [19] Department of Health , “National Health Workforce Dataset (NHWDS),” Canberra, 2013 - 2015.
- [20] Australian Bureau of Statistics, “ABS - 3218.0 - Regional Population Growth,” 2013 to 2015.
- [21] Department of Health, “Bonded Medical Places Scheme,” 7 Feb 2017. [Online]. Available: <http://www.health.gov.au/internet/main/publishing.nsf/Content/work-st-bmp>. [Accessed 2017].
- [22] Pharmacy Guild of Australia and Commonwealth of Australia, “5th Community Pharmacy Agreement,” Canberra, 2010.
- [23] Pharmacy Board of Australia, “Overseas practitioner registration,” 1 September 2016. [Online]. Available: <http://www.pharmacyboard.gov.au/Registration/Overseas.aspx>. [Accessed 1 August 2017].
- [24] Australian Government Department of Prime Minister and Cabinet, “Aboriginal and Torres Strait Islander Health Performance Framework 2014 Report,” Commonwealth of Australia, Canberra, 2015.