

## Part 5. Pharmacy workforce planning and development – country case studies

This part presents seven country case studies on pharmacy workforce development from Australia, Canada, Great Britain, Kenya, Sudan, Uruguay and Vietnam. Each has been sourced from a different region to describe a unique set of pharmacy workforce challenges and issues. The case studies provide an overview of strategies employed to address workforce challenges, associated outcomes and lessons learnt.

### 5.1 Country case study: Australia

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#### Summary

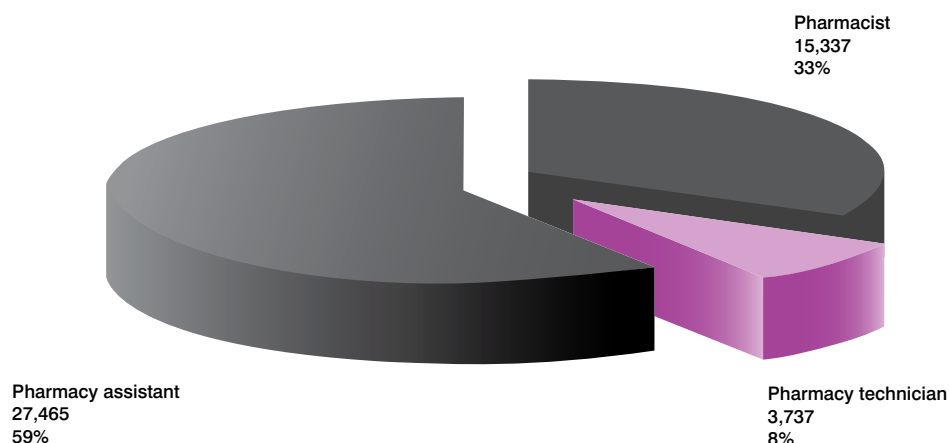
- Pharmacists play a valuable role in maintaining the health of all Australians and are the most accessible health care service.
- There are a number of factors that are likely to impact on the future pharmacy workforce in Australia including increased participation in primary health care services by pharmacists, increased numbers of pharmacy schools, ageing population, feminisation of the workforce, burden of chronic disease, information technology advances, increasing role for pharmacy technicians, ageing workforce, shortages in rural and remote Australia and discrepancies between Indigenous and Non-Indigenous Health.
- There are key workforce challenges posed particularly in rural and remote Australia and there are marked variations in the supply of pharmacists between major cities and rural areas.
- Australia has a comprehensive suite of Rural Pharmacy Programs aimed at addressing workforce issues in rural and remote communities.
- There is supporting evidence for the success of the Rural Pharmacy Programs.
- The Pharmacy Guild of Australia in collaboration with other key stakeholders are continuing to research issues, develop solutions and seek funding to implement and maintain successful programs to ensure quality health outcomes are delivered to all Australians.

#### 5.1.1 Background

Pharmacists play a valuable role in maintaining the health of all Australians, particularly in rural and remote areas. As the most accessible health care service, it is estimated that on average each person in Australia visits a community pharmacy 14 times per year.[1]

The 2006 Population Census data showed that there were 46,539 in the Australian pharmacy workforce. The occupational classifications that this is broken down into are pharmacists (33%), pharmacy dispensary technicians (8%) and pharmacy assistants (59%).[2] Figure 1 shows a breakdown of the Australian pharmacy workforce by occupational classification (cadre).

Figure 1. Breakdown of Australian pharmacy workforce by cadre (2006)



Source: 2006 Australian Population Census

Pharmacy assistants are often the first point of contact for a consumer as they enter a pharmacy, and are often required to provide advice on health-related issues, referring where appropriate to the pharmacist for more in-depth counselling or advice. Whilst there are no mandatory qualifications, a certificate course in Community Pharmacy is generally undertaken. However, all pharmacy assistants must attend a seminar/short course on pharmacist and pharmacy-only medicines.

Pharmacy technicians assist the pharmacist to provide quality pharmaceutical services by performing some of the routine technical tasks associated with dispensing. To undertake this role, technicians are encouraged to complete a certificate course in Community Pharmacy or a specific short course.

Pharmacists undertake either a four-year full-time undergraduate degree or a two year full-time post-graduate degree at University plus an additional one year as a pharmacy intern prior to registration. The services provided by Australian pharmacists include a traditional range of clinical services in the area of medicines-related care such as:

- Dispensing prescription only medicines with appropriate counselling
- Supply of Pharmacy Only Medicines and Pharmacist Only medicines with appropriate counselling
- Home Medicines Review program services
- Provision of dose administration aids to patients who require or request the service including elderly, chronically ill and disabled consumers, both in the community and residential facilities
- Ensuring the quality use of medicines through advice and counselling of consumers and carers
- Provision of triage services for a range of community health concerns, frequently referring patients to General Practitioners or other health professionals.

In addition, pharmacists now have the opportunity to take on additional roles in primary health and preventative care through a range of professional services (some of which receive funding from the Australian Government) including medication-related care programs and primary care programs.

## Box 1. Pharmacist professional health services

### Medication-Related Care Programs:

- Hypertension management
- Dose administration aids
- Patient medication profile
- Medication management reviews
- Home medicines reviews
- Illicit drug diversion programs such as Project Stop
- Dispensing Methadone

### Primary Care Programs:

- Wound management
- Needle and syringe supply
- Health promotion and illness prevention
- Asthma management
- Diabetes management
- Continence management
- Falls prevention
- Infant care programs
- Smoking cessation
- Weight management programs

A study of the supply and demand of pharmacists from 2000 to 2010 showed that there was expected to be a workforce shortfall of around 3,000 pharmacists by 2010.[3] There is currently a research project underway to forecast the workforce growth to the year 2025. Although the project may not forecast the future exactly, the report will provide an understanding of the issues and will assist policy development to ensure a workforce that meets the needs of the Australian community.

Some of the factors identified that are likely to contribute to the future pharmacy workforce planning in Australia include: [4]

- The increased number of pharmacy schools in Australia and an increase in the number of undergraduate and post-graduate degrees leading to a registrable qualification. Over the past eight years the number of schools has increased from six to 16;
- The increasing feminisation of the workforce. The female workforce has increased from 47.6% in 1996 to 56% in 2006;
- The increasing role of pharmacy technicians and the use of technology;
- Shortages of hospital pharmacists;

- Rates of workforce attrition;
- Increasing rate of participation in primary health care services by pharmacists (eg. Home Medicines Reviews, Asthma and Diabetes Management Programs, Medication Compliance Programs etc);
- Ageing population and increasing burden of chronic disease and hence increasing demand for pharmaceutical and health care services;
- Ongoing discrepancies between Indigenous and non-Indigenous health; and
- Shortage of pharmacists in rural and remote Australia.

Previous workforce studies have concentrated solely on the supply and demand of pharmacists. The current workforce study Pharmacy Workforce Planning is taking a more holistic view of the pharmacy workforce by including pharmacy technicians and pharmacy assistants. It is unclear at present whether there is a shortage or oversupply of these non-pharmacist roles. However, it is hoped that this project will inform workforce planning in these areas and it is due for completion at the end of 2009.

As discussed above there are a number of factors that are likely to impact on the future pharmacy workforce in Australia. Of particular importance due to the geographical distribution of Australia's population, is the access to pharmacy services in rural and remote Australia. This case study will focus specifically on the key issues and strategies that have been undertaken over the past decade to address the pharmacist workforce shortages in rural and remote Australia.

### 5.1.2 Key issues

Throughout much of rural and remote Australia there is a shortage of health care providers, high turnover in the health workforce, and problems in gaining access to services.

The Australian Institute of Health and Welfare (AIHW) identified that pharmacists are less prevalent in rural and remote areas than in major cities. Furthermore, it has been identified that pharmacists in rural and remote areas are on average older and work longer hours than those in major cities and inner regional areas.[5]

A study of the supply and demand of pharmacists from 2000 to 2010 identified that there were marked variations in the supply of pharmacists between major cities and rural areas.[6]

The AIHW reported that the ratio of pharmacists to population in remote areas was 0.35 to 0.40 the ratio in major cities (based on numbers of pharmacists per 100,000 population and on main location of work). The distribution of pharmacists by location type is broken down in Table 1.

**Table 1. Distribution of pharmacists by location type**

Location	Total
Major city	11,333
Inner regional areas	2,479
Outer regional areas	979
Remote/very remote areas	147
Unknown	733
<b>Total</b>	<b>15,673</b>

Source: 2006 ABS population census data

There is evidence that the shortage in rural and remote areas will continue beyond 2010 since the demand for pharmacy services is likely to increase in the future. With the ageing of the population, and a greater propensity for chronic disease with advancing age, it is expected that the number of prescriptions dispensed will rise. Coupled with this is the expanding role of community pharmacy within the primary health care model.

In comparison to individuals living in major cities or regional areas, those who live in rural and remote areas of Australia have lower life expectancy and higher rates of mortality, morbidity and hospitalisation.

Australian pharmacists also play a critical role in ensuring access to and quality use of medicines in remote Aboriginal communities. Aboriginal and Torres Strait Islander people have by far the worst health outcomes and the clearest inequity in health care provision of any identifiable group in the Australian population. The life expectancy of Aboriginal and Torres Strait Islander people is around 17 years lower than that of the Australian population.

Aboriginal and Torres Strait Islander people are comparatively low users of medical services and pharmaceuticals. For the

mainstream Australian Government schemes of Medicare and the Pharmaceutical Benefits Scheme (PBS), Medicare benefits paid per Indigenous person were estimated to be 45% of the non-Indigenous average, and the PBS expenditure was estimated at 51% of the non-Indigenous average.[7]

Recruiting and retaining adequate numbers of health professionals is not isolated to the pharmacy profession, and it is a continuing issue for rural, regional and remote communities (NRHA Conference, May 2009).

There is existing evidence to support that there are key predictors to make rural practice more likely for a health professional. Research shows that students who have a rural background are twice as likely to return to a rural area upon graduation compared to metropolitan students.[8] Furthermore, there is a wealth of evidence demonstrating that exposing students to positive rural health practice is an effective strategy for increasing the recruitment and retention of health professionals in rural areas.[9,10]

The Australian Government and the Australian pharmacy community have a commitment to ensure that there is a network of accessible and viable community pharmacies throughout Australia, particularly in rural and remote areas. A number of rural pharmacy initiatives are funded by the Australian Government under the Fourth Community Pharmacy Agreement (and managed by the Pharmacy Guild of Australia) to maintain and improve access to community pharmacy services for people in rural and remote areas.

### 5.1.3 Strategies used and lessons learnt

As discussed above there are a number of issues that impact on the workforce and rural health service delivery in rural and remote Australia, and in general there is a shortage of pharmacists practising in these areas. This has resulted in the implementation of a number of innovative strategies over the past decade aimed at recruiting and retaining pharmacists in rural areas. These strategies are collectively known as the Rural Pharmacy Programs.

The conceptual framework for the Rural Pharmacy Programs is based on the known factors that may contribute to the decision to practice in a rural or remote location. There is evidence to support that the key factors that make rural practice more likely include rural origin, positive rural experiences,

economical considerations, and educational factors. It is thought that a combination of incentives to address these factors rather than a single intervention has the probability to be more successful, and there may be considerable overlap between the factors that lead to a pharmacist starting practice in a rural area (recruitment) and the decision to stay for a period of time (retention).[11]

Australia's suite of Rural Pharmacy Programs has been recognised as the most comprehensive rural pharmacy program internationally.[12] A summary of the Rural Pharmacy programs by key strategy and the disincentive that it addresses is provided in Table 2.

**Table 2. Rural Pharmacy Programs by key strategy and disincentive addressed**

Strategies	Type of disincentive addressed			
	Economic	Professional	Educational	Family
<b>Recruitment of pharmacists to rural areas</b>				
Undergraduate Scholarship Scheme	✓		✓	
Placement (Internship) Allowance	✓		✓	
Pharmacist Academics positions at University Departments of Rural Health		✓	✓	
Administrative Support to Pharmacy Schools			✓	
Rural Pharmacy Promotion Campaign			✓	
Rural Pharmacist Pre-registration Incentive Allowance	✓	✓		
<b>Retention of pharmacists in rural areas</b>				
Emergency Locum Service	✓	✓		✓
Continuing Pharmacy Education (CPE) Allowance	✓	✓	✓	
Rural Pharmacy Newsletter		✓		
<b>Access to community pharmacies and pharmacy services</b>				
Rural Pharmacy Maintenance Allowance	✓			
Start Up Allowance	✓			
Succession Allowance	✓			
Section 100 Pharmacy Support Allowance	✓	✓		
Indigenous Pharmacy Scholarship Scheme	✓		✓	
Rural Commissioned Research Projects		✓	✓	
Small Project Funding Scheme		✓	✓	
Quality Use of Medicines Maximised for Indigenous Peoples	✓			
Indigenous Pharmacy Assistant Traineeship Scheme	✓		✓	

The strategies summarised above were developed in collaboration with key pharmacy stakeholder groups and are funded by the Australian Government via the Community Pharmacy Agreement and managed primarily by the Pharmacy Guild of Australia. Since 1990, the Commonwealth Government and the Pharmacy Guild have entered into Community Pharmacy Agreements which set out the remuneration that pharmacists will receive for dispensing PBS medicines and the arrangements regulating the location of pharmacies approved to supply PBS medicines. Over time these Agreements have increased in scope to provide for professional pharmacy programs and services.

Under the Fourth Community Pharmacy Agreement, the Rural Pharmacy Programs have been allocated a total budget of \$110 million AUD over a period of five years. There is some evidence to support that the programs that address economic disincentives have been particularly successful in addressing the strategies that relate to the retention of pharmacists and access to pharmacy services. For example, the most significant amount of funding (approximately 60% of total budget) is dedicated to the Rural Pharmacy Maintenance Allowance. This Allowance provides payments to pharmacies in rural and remote areas based on their remoteness and number of PBS items dispensed. For some of these pharmacies, the payment is the difference between maintaining a viable pharmacy business and possible pharmacy closure. To this extent, the allowance contributes to an increase in pharmacy services for communities located in rural areas. Similarly, the Emergency Locum Service that provides access to locums in emergency situations in rural areas allows for a continuity of pharmacy services in communities where the pharmacy may otherwise close.

The current suite of programs evolved from a number of earlier programs, the earliest of which commenced in 1999 as a three year pilot program with funding of \$500,000 AUD. The programs were significantly expanded through the Third Community Pharmacy Agreement under the Australian Government's Regional Health Strategy for \$74 million over five years from 2000 to 2005. A further increase to \$111 million up to 2010 was secured under the Fourth Community Pharmacy Agreement.

There have been a number of lessons learnt in the past decade due in part to the 'evolutionary' nature of the programs. Prior to 2005, a number of the programs operated as separate initiatives rather than as a suite of programs

with common objectives and outcomes. As a result, the programs were viewed by some stakeholders as being quite fragmented and aimed at different program directions.

To generate a consensus direction post 2005, a number of planning meetings and workshops were held with key stakeholders to inform a primary set of objectives as well as implementation priorities to guide the program from 2005 to 2010. The objectives that were redefined as a result of the planning meetings were:

- To increase the number of pharmacists in rural and remote practice through enhancing the attractions of rural practice and by offering appropriate incentives;
- To increase the length of stay of pharmacists in rural and remote practice by removing or reducing disincentives to practice;
- To develop innovative solutions to overcome the barriers to the delivery of pharmacy services in rural and remote communities.

Articulating the objectives in this way has allowed the Program initiatives to be developed in a more targeted manner.

Over the past decade we have learnt that for the Program to remain relevant it needs to be an ever evolving and dynamic program. Further refinement and development to the Program post-2010 will need to be made in light of new health policy reforms, information technology developments and workforce variations.

It is recognised that in addition to the strategies under the Rural Pharmacy Programs, new ways of providing access to pharmacy services in rural and remote areas should be identified where full-time or even part-time face-to-face services are not viable. Initial work has been undertaken to look at the relationships between community pharmacies and local hospitals, services provided at a distance and centralisation of health services at a regional level. For example, there have been some local level projects investigating the role of tele-pharmacy models in remote areas that have shown some promising results. These projects may form the basis of a template for designing future service delivery models in rural and remote areas.

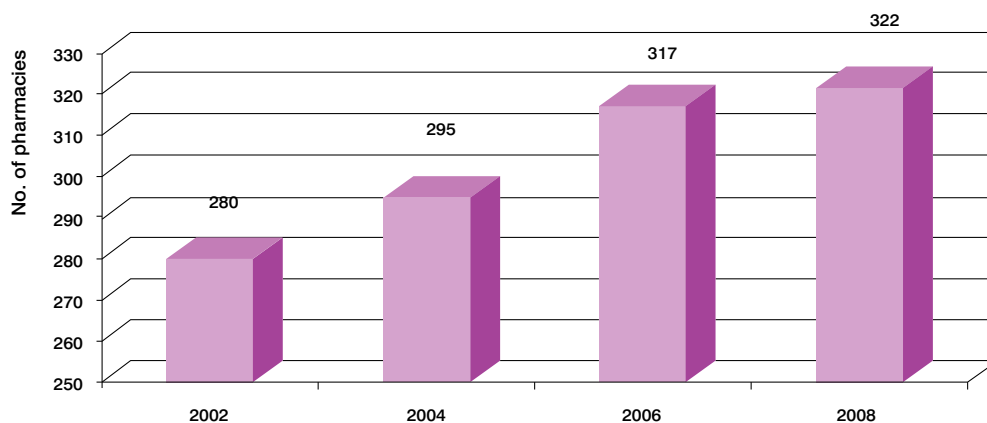
A comprehensive Rural and Indigenous Pharmacy Programs Review that takes into account the challenges posed by the rural and Indigenous context is scheduled to be completed

by December 2009. In addition to the Rural Pharmacy Programs, the Review will look at other models of service delivery for pharmacy in rural remote communities and inform options for future programs beyond 2010.

#### 5.1.4 Outcomes and conclusion

The support provided under the Rural Pharmacy Programs has enabled the delivery of the only expanding health service in rural and remote Australia. Since the inception of the programs there has been a steady increase in the number of pharmacies in rural and remote Australia (as shown in Figure 2 below). While an increase in the number of pharmacies by approximately 13% over a period of six years may seem modest, when compared to the overall growth of pharmacies within Australia for the same period (1.6%), this is significant (based on Guild Digest Data).

Figure 2. Number of pharmacies in rural and remote Australia



Data source: Guild Digest Data

Supporting evidence for the success of the Rural Pharmacy Programs can be derived from the outcomes of an independent evaluation which was completed in early 2005. The outcomes of the evaluation supported the continuation of the Programs and found that the programs were widely seen as important by consumers, and were highly valued by rural and remote pharmacists. Furthermore the evaluation found the programs were conceptually sound. The conceptual correctness of the programs was tested against the stated objectives, the current literature, qualitative research and comparable programs.[13]

The 2005 evaluation proposed a list of specific recommendations to each individual program element that were taken into consideration during the planning of programs that were implemented from 2005 onwards.

As discussed above, a further review of the Rural Pharmacy Programs is scheduled to commence in 2009. It is envisaged that the review will build on the experience of the previous evaluation which identified what needed to change and will focus on the information that is needed to support the change.

The Pharmacy Guild of Australia in collaboration with other key stakeholders are continuing to research issues, develop solutions and seek funding to implement and maintain successful programs. Further details of individual program initiatives can be found at <http://www.guild.org.au/rural>.

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