

Improving quality use of medicines in the bush

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Australians in rural and remote areas have shorter lives and higher rates of disease and injury than people in urban centres (AIHW 2014). Despite having a greater burden of disease, populations in rural and remote areas face increased challenges in accessing appropriate health care, including issues related to geography, availability of health professionals, and rural culture (Brundisini et al 2014). The large distance that must be travelled in many rural areas to health care often impedes access, especially if transportation is difficult or the weather is bad. Workforce issues are a significant barrier to access, with rural and remote health services often struggling to secure resources and recruit and retain staff (Bourke et al 2012). The feeling of being an 'outsider' that many people from rural and remote areas experience when they visit city hospitals or clinics may make them less willing to seek care in a distant centre. These challenges are compounded for Aboriginal and Torres Strait Islander peoples, who make up a larger proportion of remote populations than in cities (AIHW 2014). This article discusses some of the strategies to overcome the challenges of accessing quality health care in remote locations, including the provision of medicines education to nurses in the remote context.

"On the basis of measures like life expectancy and infant mortality we enjoy some of the best health and healthcare in the world. But this is not true for all Australians and, until it is, there is work to be done." At NRHA Conference 2013 (Sue Middleton, Councillor, COAG Reform Council)

As the distance from major cities increases; death rates increase, access to health services decline and rates of preventable hospitalisations for chronic diseases markedly rise with increasing remoteness (AIHW 2007, COAG Reform Council 2013). A major contributor to the elevated morbidity and mortality rates in remote areas is the disproportionate populations of Aboriginal and Torres Strait Islander peoples. Census data in 2011 demonstrated Aboriginal and Torres Strait Islander Australians constituted 16% and 45% of remote and very remote populations respectively compared with 3% of the total Australian population (ABS 2013). Indigenous Australians tend to die earlier than non-Indigenous Australians; Indigenous boys born in 2012 have a life expectancy of 69.1 years and Indigenous girls of 73.7 years compared with 79.7 for non-Indigenous boys and 83.1 for non-Indigenous girls, a gap of 10.6 years and 9.4 years respectively for males and females (AIHW 2014). Indigenous Australians have higher death rates than non-Indigenous Australians across all age groups (AIHW 2014). The rate of fatal burden of disease experienced by Indigenous Australians was 2.6 times that experienced by non-Indigenous Australians (AIHW 2105a). Indigenous Australians are 5 times more likely than non-Indigenous Australians to die from endocrine, nutritional and metabolic conditions (such as diabetes), and 3 times as likely to die of digestive conditions. The age-adjusted prevalence of cardiovascular disease in the Indigenous population was 1.3 times greater than that of the non-Indigenous population (AIHW 2015b). The prevalence of coronary heart disease and cerebrovascular disease was almost twice as high (AIHW 2015b). Indigenous Australians are more likely to be involved in health risk behaviours, such as smoking and risky alcohol consumption, and less likely to undertake protective health behaviours, such as recommended diet and exercise, than non-Indigenous Australians (ABS 2013). Whilst the Indigenous population does not completely account for the poorer health of people living in remote areas, it does contribute for much of it (AIHW 2008).

Contributing to the higher death rates experienced by populations in remote areas are challenges in accessing appropriate health care. Workforce issues are a significant barrier to accessing healthcare in remote areas, with rural and remote health services often struggling to secure resources and recruit and retain staff (Bourke et al 2012). One of the strategies employed to improve access to health care services in remote Australia is the recruitment and training of Remote Area Nurses (RANs). Most nursing positions in remote areas are in small hospitals or Primary Health Care clinics, with approximately 43% of remote nursing positions based in Indigenous communities increasing to 78% of nursing positions in very remote areas (Lenthall et al 2011). Health service delivery in remote and very remote areas is primarily through small collaborative health teams mainly comprised of

registered nurses and Indigenous health workers (Lenthall et al 2011). The Gratten Institute report 'Accessing all areas' identified nurses as the backbone of rural and remote primary care providing a rapidly growing volume of services, especially in relation to chronic disease management (Duckett et al 2013). RANs practise at an advanced level often with limited or distant medical support. The extended scope of practice requires RANs to have a broad knowledge base in relation to disease management, including the administration, monitoring, supply and storage of medications. The Council of Remote Area Nurses of Australia (CRANaplus) has defined RANs as:

Remote Area Nurses in Australia provide and coordinate a diverse range of health care services for remote, disadvantaged or isolated populations. Their practice is guided by primary health care principles and includes emergency services, clinical care, health promotion and public health services. RANs work in a variety of settings including outback and isolated towns, islands, tourism settings, railway, mining, pastoral and Indigenous communities. (CRANaplus 2003)

Acknowledging the extended scope of practice of RANs and the additional challenges this presents in providing appropriate and effective health care highlights the need for advanced knowledge and skills management. RANs are required to treat emergencies; to diagnose, prescribe, and dispense medications; to undertake community development and health promotion activities; and to conduct public health activities for a population with the worst health status in Australia (Kruse et al 2008). Orientation rates for nurses in very remote Australia are low. A study conducted in 2010, found that only 70.6 % of nurses in very remote areas received any orientation at all and less than half thought it was adequate with regard to cultural awareness (Lenthall 2015). Approximately a quarter of nurses surveyed thought their orientation had sufficient advanced clinical skills, public health, or primary health care (Lenthall 2015). Some of the comments from the survey included:

'I really wasn't prepared at all'

'I was so ignorant of what the role of a RAN actually entailed'

'Before I went bush, I didn't know what I didn't know' (Lenthall 2015)

Many nurses felt the lack of orientation was a key issue related to responsibilities and expectations. They stated that improved education would assist in meeting these expectations (Lenthall 2015). In 2003, recognising the dearth of training for RANs, staff at the Centre for Remote Health (CRH) and CRANaplus developed a course in the practical use of medicines in disease management called *Pharmacotherapeutics for RANs*. Pharmacotherapeutics is defined as 'the study of the therapeutic uses and effects of drugs' (Meriam-Webster 2015). The ultimate goal of the pharmacotherapeutics course is to improve the Quality Use of Medicines in the remote setting. Quality Use of Medicines means:

- Judicious use- Selecting management options wisely. Medicines, whether prescribed, recommended and/or self-selected should be used only when appropriate, with non-medical alternatives considered as needed;
- Appropriate use- Choosing suitable medicines if a medicine is considered necessary. Choosing the most appropriate medicine, taking into account factors such as the clinical condition being treated, the potential risks and benefits of treatment, dosage, length of treatment and costs;
- Safe use- Using medicines safely and effectively to get the best possible results. Misuse, including overuse and underuse, should be minimised; and,
- Efficacious use. The medicines must achieve the goals of therapy by delivering beneficial changes in actual health outcomes (DoHA 2004).

The pharmacotherapeutics program comprises a two day intensive workshop with associated written assessment, designed to assist RANs in developing knowledge and skills in the use of medications, the risks associated with them, and strategies to increase the benefits and minimise the risks of treatments. The course covers conditions, both chronic and acute, that are common to remote

practice and challenges participants to think beyond the usual scope of being a nurse. Guest presenters, including experienced RANs, specialist medical physicians and specialist pharmacists, provide up-to-date knowledge, expert opinion and practical solutions to challenges that patients and RANs may face in the remote setting. The use of case studies assists participants to gain a practical appreciation of concepts and knowledge of medicines and a holistic Primary Health Care approach to managing patients. Principles of drug therapy such as adverse reactions, interactions, pharmacology, adherence and professional and legislative issues underpin the cases discussed (Speare 2014).

The dispersed locations and diversity of practice that typifies RAN practise presents challenges for the delivery of education. To address this the course has been delivered in a variety of locations, including Alice Springs, Darwin, Broome, Mt Isa, Kalgoorli, Fitzroy Crossing, Umuwa, Warakuna, Longreach and Bamaga (Speare 2014).

Table 1 Pharmacotherapeutics for RANs- Participant and course numbers and completion rates

Year	Number of students	Number of courses	Completion rate
2012	151	10	82%
2013	256	16	89%
2014	209	13	65%*
2015	22	1	0%*

* students are yet to complete
Source: Centre for Remote Health unpublished.

In 2014, CRH conducted a survey of participants who had completed the Pharmacotherapeutics for RANs course within the previous 3 years. The survey was an online questionnaire conducted via Survey Monkey. It was emailed to 435 participants and achieved a response rate of 19% (82 responses/435 emails). The survey returned the following results:

- ~70% rated the course as useful to a large or very large extent
- ~55% rated the course to have improved their knowledge to a large or very large extent
- ~45% rated the course to have improved their confidence to practice as a RAN to a large or very large extent
- 81% rated the workshop entirely relevant
- 90% rated satisfaction with the workshop as good or excellent

Respondents stated that the training had increased their awareness of drug interactions and side effects of medications, and had given them strategies to enhance adherence. It had also increased their understanding of legal and legislative requirements, prescribing process, medication review process, risks of medications, and increased competence in utilising recommended reference material. The majority (85%) would recommend Pharmacotherapeutics for RANs to other nurses working in the remote context. Feedback obtained from participants immediately following the pharmacotherapeutics workshop stated the most useful aspects of the workshop were group interaction, networking, increased knowledge and awareness, using resources and interactive activities. Participants stated that Pharmacotherapeutics for RANs could be improved by increasing access through more frequent courses, varying locations and online course.

The Australian Primary Health Care Research Institute found that effective orientation and continuing professional development is vital for ensuring an adequately skilled and professionally satisfied workforce (Humphreys et al. 2007). Also continuing professional development is an important factor in workforce retention (Humphreys et al. 2007). Geographic isolation is a major barrier to enabling ongoing training to remote health workforce, including RANs. The CRH is in the process of developing an online pharmacotherapeutics program, which will help to address the tyranny of distance in education delivery in remote practice. The Pharmacotherapeutics for RANs (online) will comprise online modules with associated learning activities, instructional videos, assessment and resources. It

is intended that increasing access to educational opportunities for RANs will improve the Quality Use of Medicines for the populations in remote areas who utilise the health services. It is vital, however, that workplace organisations and Departments of Health recognise that it is crucial to support educational programs that prepare and upskill the remote health workforce to ensure the appropriate and effective delivery of health services.

Policy recommendation

Funding for educational programs to prepare and upskill the remote health workforce needs to be maintained at appropriate levels.

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Presenter

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