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Rural paramedic practitioner – a future model of care

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Commentary

Rural paramedic practitioner – a future model of care

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Abstract

This commentary looks at the introduction of the rural paramedic practitioner – a rural paramedic who has completed advanced medical training in primary health care and is able to provide pre-hospital, hospital and primary health care – into the Australian health care system.

Keywords:

physician assistant, rural health care, paramedic, health workforce innovative

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Introduction

Australia's health system is world class, modern and accessible (1). However, it is also complex, expensive and may be unsustainable (2,3). For example, there are multiple layers of government, complex legislation, multiple funding sources, discrete programs operating in isolation and professional boundaries that seem change-resistant (1). The population is aging and life expectancy is increasing; an aging population has a higher incidence of disability, complex and chronic diseases (4). New medical technology is expensive. More efficient and cost effective models of health care need to be developed (1).

Paramedics contribute to health care, but historically only in the pre-hospital environment (5). In rural Australia, paramedics are increasingly being utilised to provide primary health care (5,6). Physician assistants (PAs) provide medical care in collaboration with a doctor. Combining rural paramedic and PA skills could create innovative clinicians who could deliver rural health care in the pre-hospital, hospital and primary health care environments.

Rural health in Australia

The health care of rural Australians is underserved, with limited access to specialty care, primary and emergency care. Rural communities also have difficulty recruiting and retaining medical personnel and other health care professionals (7-10). As a result, people living in rural settings have higher rates of illness and disease, more hospitalisation presentations and admissions, poorer health outcomes and a shorter life expectancy (8,9).

Addressing rural health care problems requires new paradigms of thought and distinctly new solutions. While numerous national policies and strategies have been developed, contemporary rural health care models need to be flexible, innovative and should be developed locally to meet the unique needs of rural communities (7-9,11). No single health care model is capable of servicing all the health demands of diverse rural communities. These innovative models must be flexible and account for the specific geographical, social, economic and cultural contexts (7-9).

Proposed solutions suggested by Health Workforce Australia (8) and the Standing Council on Health (12) include:

- Extending the scope of practice of existing workforce
- Developing new categories of generalist practitioners
- Developing health assistants
- Better coordination between existing workers
- Growth in community and home-based care
- Traditional professional demarcations and organisational structures should be challenged and care should be integrated between health sectors.

In response to the needs of rural communities, new prototypes of health care providers are evolving. Often the evolution of these new roles is in response to local needs and due to a lack of existing health services within rural locations. Such initiatives could include the expanded roles of paramedics and inclusion of physician assistants (13-16).

What is a physician assistant?

A physician assistant (PA) is a health care provider who practises medicine under the delegated authority of a supervising doctor (17,18). This collaborative relationship is an essential and defining feature of the PA model (19). The scope of practice of a PA is defined by their supervising doctor and with additional training and skills, evolves over time. It is a medical extension model developed to provide health care to underserved rural and remote populations (17,20,21).

The PA profession was established in the United States in the late 1960s. It has since been introduced into Canada, the United Kingdom, the Netherlands, India and, most recently, New Zealand and Australia (16). Evidence suggests that PAs provide safe and effective health care and can make significant and cost-effective contributions in rural communities (16,17,20). Physician assistants are not doctors. They practice using the medical model and work collaboratively with other health care professionals to deliver holistic health care.

Australian PAs have allied health training and experience; many have a paramedic background. Physician assistant training includes a 3-year medical training program with 1800 hours of clinical placement. The PA develops advanced history taking and physical examination skills, and learns to order and interpret radiologic and pathologic tests and diagnose and treat illness, injury and disease (16,17,20,22). With these advanced diagnostic and therapeutic reasoning skills, PAs are able to independently manage acute and chronic conditions within a delegated scope of practice (23,24).

Paramedics in Australia

Paramedics provide medical care in the pre-hospital environment (25). Paramedicine is an expanding and emerging health profession (26). Paramedic education has shifted from the vocational to the tertiary sector (27) with a Bachelor degree now the entry-level qualification into the paramedic profession (28).

The role of the rural paramedic is also evolving (14,29). Many Australian ambulance services are 'extending' the skills of their rural paramedics to include primary health care skills (5,28). The purpose of these advanced skills and knowledge programs is to decrease the over-reliance on the hospital and primary health care systems for sub-acute and after-hours care (5,6,30) and to improve the integration of paramedics into the local communities and local health care systems (5).

Extending paramedic skills from the pre-hospital environment and into hospital and primary health care environments will require a deep and broad knowledge of general medicine (5,28). Current extended care paramedic (ECP) education typically consists of a condensed, in-service, primary health care training program (5). However, some Australian universities are introducing community paramedicine into their Master programs (28). The combined training of a paramedic and a PA could provide rural paramedics with the skills and knowledge to perform medical care in the pre-hospital, hospital and primary health care environments. The advanced diagnostic, therapeutic reasoning and treatment skills of such a clinician could be well suited to rural paramedicine. Rural paramedic practitioner (RPP) would be the proposed job title for such a clinician.

A new model of paramedic service delivery

The addition of PA training to an experienced rural paramedic's current skill set could produce a robust and versatile clinician. During ambulance down time an RPP could provide delegated and supervised medical care at a rural town's hospital or primary health care facility. This activity would enable the RPP to become an integral member of the local health workforce. The scope of practice for these activities would be defined by the local medical officer and vary according to the background, experience and competence of the RPP and the unique needs of the rural community.

The RPP should always be available for immediate dispatch to a pre-hospital incident. With advanced primary health care skills, in-hospital experience and expert local knowledge the RPP could make broader treatment decisions in the pre-hospital environment. While attending to their pre-hospital patients the RPP could initiate unique, locally developed, treatment pathways for individual patients (Figure 1).

Treatment pathways could include:

1. 'Treat and leave': the RPP could be capable of assessing and treating simple uncomplicated conditions within the community. These patients may not require ongoing medical care within a hospital setting. Patient education could also occur at this point.
2. 'Treat and refer': the RPP can treat the sub-acute patient in the pre-hospital environment. Appropriate treatment may require pre-hospital initiated radiology, pathology or pharmacology. The RPP could collaboratively facilitate primary health care follow-up, thus reducing the need for hospital presentation. Treat and refer could also solve the common experience of many patients being unable to access sub-acute or after hours care in a rural town.
3. 'Treat/retrieve and admit': Treat and retrieve is the traditional role of paramedics. The RPP could initiate pre-hospital treatment and also continue that treatment on arrival at hospital. This may include admitting patients and charting treatment plans. The capacity to do this overnight (24/7) could reduce the afterhours call outs for doctors.

Figure 1. RPP treatment pathways

Not all patients assessed by paramedics need to be taken to hospital (31,32). Identifying the correct treatment pathway could save between \$451.00 for non-admitted patients, and up to \$960.00 for patients that avoid admission (33).

A well trained and supervised RPP could deliver a comprehensive range of medical services within the patient's home, pre-hospital and hospital/clinic settings. Non-emergency patients could be treated and referred to the patient's primary health care provider. Emergency patients could be retrieved to the local hospital facility where the RPP could continue care within that setting.

A RPP scope of practice and local work practices would be defined locally and continually evolve, as the RPP gains experience and medical officer trust. Consequently, local service agreements between health and ambulance agencies would need to be established. These agreements should outline administrative, communication and clinical quality control mechanisms. Funding the RPP role would also need to be collaboratively developed.

The pre-hospital workload of a rural paramedic is highly variable. The local health infrastructure is also highly variable.

Local flexibility, collaboration and innovation would be required to effectively utilise the full potential of the RPP role. The introduction of an RPP and their full integration into the local health care system could enable changes in health care relationships (Figure 2).

Conclusion

Many rural communities are medically underserved and experience difficulty recruiting and retaining experienced health care workers. To be sustainable, the future provision of health care in rural areas requires local initiative and innovative models. One such model could be the combined skills of a rural paramedic and a PA – the rural paramedic practitioner.

Rural paramedic practitioners would straddle medical and paramedical health domains. They could be safely and efficiently be deployed into the pre-hospital, hospital and primary health care setting. Enabling this to occur would require considerable flexibility, leadership, cooperation and collaboration between both professions. Local nursing and allied health providers would also need to embrace this role for it to be fully effective.

Figure 2. Changes in local health care relationships

Conflict of interest

The authors declare they have no competing interests. Each author of this paper has completed the ICMJE conflict of interest statement.

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