Expanded paramedic health care roles in rural and remote communities

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Introduction

It is generally agreed that Australia enjoys a world class standard of health care, however major challenges to maintaining equitable access to health care and ensuring an adequate and equitably distributed workforce face us nationally. This problem is particularly pertinent to rural and remote areas where access to health resources lags significantly behind that of metropolitan centres.

Maintaining an adequate health workforce has been receiving increasing attention at national and state level in recent years. The growing financial pressure on the health system, and a significant shortage of health professionals especially in the public health sector, has forced a consideration of alternative models of providing health care. Notably, the issue of a shortage of health workers is of greatest concern in some rural, remote and Indigenous communities. This maldistribution of available health care resources has tended to disadvantage people living in these communities and attempts at addressing this inequity has been the focus of both state and federal jurisdictions for some time.

Federal and state government documents have recognised the need for health reforms, and have instigated strategies to examine opportunities for expansion of health care roles, accelerated recruitment programs, and institution of new training places for medical and nursing students to help deal with the shortage of health workers. A number of health policy position papers, and numerous health care reform analysts, have supported the expansion of health workforce capacity by developing generic health workers, and further widening traditional health roles to capitalise on under-utilised segments of the workforce. In Queensland, the Ambulance Service has made a timely and significant response to this call and is currently training, through partnership with James Cook University, the first cohort of 20 Isolated Practice Paramedics who will graduate in late 2007 with expanded scope skill sets in chronic disease management and public health.

This paper describes this initiative, its drivers and the development of an evidence base to support curriculum development and evaluation strategies for this program.

Drivers for change

Workforce issues

Although the number of medical professionals trained in Australia has increased substantially in recent years and there has been some relief from the capping of available places, other factors such as a reduction in shift hours for doctors under safe working hours policies and losses to outside workforces, have resulted in a sustained shortage of doctors and other health workers. This effect has been especially felt in the public health sector. Two other factors that have been noted to have an additional effect on current workforce capacity are the current aging health workforce, and a greater participation of those wishing to work on a part time basis. The average age of health care workers is increasing and has therefore elevated the rate of exit from many parts of the health workforce. The rate of health worker exit from the workforce is expected to continue to increase in coming years as a large segment of the workforce approaches retirement age. Additionally, people entering the health professions are increasingly choosing to work part-time and adopt flexible working hours to suit their lifestyle and commitments. All of the discussed factors have resulted in a reduction of health workforce hours and workforce numbers, making the task of maintaining, let alone increasing, health provision extremely difficult.

Exacerbating the national workforce shortage, there is considerable variation in the distribution of health workers across Australia. For example, the Productivity Commission paper identified that the...
GP to population ratio in remote communities is less than half of that in major metropolitan areas. Additionally, there is a heavy reliance on overseas trained temporary resident doctors to fill non-specialist hospital positions in rural areas. The major cause identified as contributing to the relative under representation of the health workforce in rural and remote areas is a reluctance of health workers to take up these positions due to various factors that include:

- perceptions among some health professionals that remuneration levels are lower and prospects for advancement and professional development are fewer in rural and remote areas compared with urban areas
- perceptions that professional demands are greater on rural and remote practitioners in terms of expected levels of performance and commitment, heavier workloads, and a reduced availability of supporting health care infrastructure
- lifestyle concerns relating to poor community infrastructure such as housing, education, transport, and reduced employment opportunities for spouses
- training and education opportunities for health workers may be significantly reduced in rural and remote areas.

The above factors have been noted to present significant barriers to the equitable distribution of health workers. They are recognised as contributing to the difficulty in attracting and retaining health workers to rural and remote areas. The current health worker shortage and maldistribution is more than normal cyclical variation. Poor access to health services by people living in rural and remote communities is such an entrenched problem in Australia it seems unlikely it can be easily addressed. Due to factors related to the economic market, health services will likely continue to be concentrated in more densely populated areas, in order to provide access to the greatest number of people possible and maximise cost effectiveness.

The increasing health care demand in Australia

The increasing shortage of health professionals is critical amidst numerous forecasts of a substantial increase in demand for health services. A number of factors are thought to be responsible for this projected increase in demand for health care, including:

- advances in health technology
- a growing consumer expectation of being able to access those new technologies
- an increase in chronic diseases.

Advances in health technology are providing an ever-increasing range of higher quality health services and procedures that treat or prevent disease, and promote recovery. As these new technologies become available, and people globally become more aware and astute regarding health care issues, their expectation to be able to access these services will also increase. Additionally, as incomes rise people generally spend more on health care and demand higher quality services. Modern lifestyle factors are also predicted to impact upon the requirement for increased access and quality in health care.

Nationally, the burden of chronic diseases such as diabetes (due to increasingly sedentary lifestyles and poor diet), strokes (as a result of smoking and poor dietary habits), and an increasing prevalence of dementia in the ageing population are forecast to increase. Older health consumers generally account for a disproportionately greater share of health resources. By 2045, the percentage of the population that will be aged over 65 is projected to be 25%, which is double the current level. The ageing population and increasing focus on lifestyle-related diseases, will generate an increasing demand for the management of chronic diseases.

Amidst a scenery of increasing chronic disease, and subsequent demand for treatment and prevention of such ailments, the emphasis of rural health services is predominantly on treatment of acute conditions, rather than prevention of illness and injury. People living in rural and remote areas are
The role of paramedics

Since the late 1990s, one approach to addressing health workforce shortages has been developing in the form of new arrangements between Emergency Medical Systems (EMS) and managed care organisations. Whilst internationally a variety of innovative partnership models have been explored, the most notable developments have been made in the United Kingdom and the United States. In the UK’s National Health Service (NHS), these systems are facilitated by integration of the financial and resource utilisation needs of the primary care/managed care sector and are predicated by challenges to maintaining a sustainable medical and nursing workforce.\(^6\)\(^7\)\(^8\)\(^9\)\(^10\) The goals of these arrangements include:

- extending resources over increasing demand
- matching safe and appropriate resources to clinical need.

In some models, a desired effect has also been reduction in EMS costs.\(^11\) Cost reduction has been evidenced in models which utilise emergency contact and despatch functions to stream patients to a variety of care environments (eg: General Practitioners, telephone health advice services, community nursing services, emergency ambulance response) contingent upon their symptoms and acuity. These models are collectively known as Multiple Option Decision Point (MOPD) systems.\(^12\)

In Queensland, examination of potential models to facilitate similar adjunct health services is ongoing. Models under examination include, but are not necessarily restricted to:

- mechanisms to facilitate closer working arrangements between paramedics and primary care practitioners, outpatient services, community nursing providers – some components of which been the United Kingdom
- models similar to the Physicians Assistant (PA) program established in the United States. Physicians Assistants are health care professionals licensed to practice medicine under Physician supervision. Overseas, many PA’s have prior qualifications as nurses and paramedics
- training and implementation of new qualifications as Primary Care Paramedics
- American Emergency Medical Technician (EMT) models. Emergency Medical Technicians in the United States provide immediate health care and transport patients to medical facilities in much the same context, though typically with less training and a reduced scope of practice, as do paramedics in Queensland.

Queensland Paramedics are among the most highly trained prehospital emergency health providers in the world. The combined approach to vocational and tertiary based Advanced Care and Intensive Care Paramedic programs deliver prehospital emergency care providers with significant clinical skill sets. In this context, Queensland is well placed to expand the utility of paramedics to wider public health and primary care health delivery. The National Public Health Partnership defines public health as “… organised response to society to protect and promote health, and to prevent illness, injury and disability”.\(^13\) Primary care is generally understood to refer to the prehospital community environment and general practice settings, but may extend to outpatient services in acute facilities. Both the environment and the intent referred to by these definitions are consistent with the focus of paramedic practice. Paramedics in rural and remote communities experience considerable periods of time not engaged in the undertaking of emergency work, and thus present a valuable resource for further utilisation. Expansion of the roles
of Paramedics in rural and remote health networks could represent a significant improvement in access to basic health care needs for these communities.

The Queensland Isolated Paramedic Initiative

A review of national and international literature on ‘expanded scope paramedic practice’ and generic health provider initiatives was conducted through database searches (Pubmed, Medline, PsycINFO) of peer reviewed journals, and a review of several expanded scope evaluation studies. In addition, a survey of Queensland Paramedics working in rural and remote areas identified current health needs within their communities, whilst assessing the capacity and responsiveness of these Paramedics to undertake training for expanded practice roles.

Several models that were developed and successfully trialled overseas were reviewed in detail, and key components for an expanded paramedic scope of practice were identified. The results of this study informed the design and development of a tertiary-based training curriculum for isolated practice paramedics. The teaching of a Graduate Certificate program commenced at James Cook University in Queensland in Semester 2 of 2006. There are plans to expand this program to a Graduate Diploma, and ultimately postgraduate programs in the future.

Work to date provides a preliminary perspective on the range of options for expanded paramedic practice. It is anticipated that in the context of the clinical skill sets developed through current training programs, and the exposure of Queensland paramedics to a wide variety of health events, relatively moderate adjunct training will be required to facilitate safe, efficient and effective delivery of basic health monitoring in primary care settings. The intention of the Queensland Ambulance Service in developing a core curriculum to upgrade Paramedics for service provision in these environments is to improve health services responsiveness, particularly in rural and remote communities. However, international experience, particularly that of the UK, demonstrates that extended care providers of this type also have the capacity to significantly improve the responsiveness of health services to people in metropolitan and major regional communities.

Off-shore deployments of Queensland paramedics to the Indian Ocean Health Response (specifically in Indonesia—Team Foxtrot, Banda Aceh) further demonstrate that Intensive Care Paramedics are already capable, with appropriate clinical support, of delivering high quality clinical outcomes for patients (eg: suturing, anaesthetic technician functions, wound management, health status monitoring etc).

Recognising the necessity to develop initiatives that realise the potential of a highly skilled and intelligent health workforce, the QAS Isolated Practice Paramedic initiative has been successful in negotiating access to components of RIPERN curriculum and developing appropriate versions of core public health programs currently provided by James Cook University. The intent of this program is the development of core skills and competencies in a range of basic health care management, chronic disease management, and minor medical interventions provided in the context of medical support and consultation and closer alliance with the existing and visiting health care services in rural and isolated communities.

Students will experience both face-to-face lectures and skills training as well as mentored community practice using RIPERN networks in the state. Students will be supported by the QAS as well as mentors and placement supervisors. The course is completed part-time over a twelve month period and will emphasise the importance of careful community analysis and implementation of new health programs/services led by paramedics only in consultation with the wider health service network.

Paramedics working in isolated communities typically have existing strong relationships with local and visiting medical practitioners and other health care staff. Under this new initiative, these relationships will be enhanced as the community and other providers work collaboratively together to determine appropriate new responsibilities for isolated practice paramedics. A survey of the practice patterns of rural and remote paramedics conducted by the Australian Centre for Prehospital Research in 2005 demonstrated that many paramedics are already providing support, under supervision, to medical officers and other health care workers in their communities. The intent of this new initiative is to
provide an even more robust skill base on which to base future service delivery for non-acute/non-emergency care.

**Systemic issues requiring negotiation and resolution**

Any new initiative of this type faces a number of issues which require ongoing negotiation and resolution. For example, issues relating to clinical governance, clinical quality risk management, clinical support frameworks and environmental scoping to determine the most appropriate practice environments is understandably a dynamic process. These issues also necessarily include:

- ability to complete detailed community needs analyses and service mapping to avoid duplication and competition
- collaborative involvement with other health providers in curriculum development
- development of clinical quality improvement and audit frameworks. The Queensland Ambulance Service has well established existing mechanisms for clinical audit at the local level through Clinical Support Officer’s, however the utility of these mechanisms to proposed practice extension is dependent on determination of the most effective and efficient practice environments for the proposed Isolated Practice Paramedics
- licence to practice arrangements and professional indemnity
- access to an extended pharmacology (Drugs and Poisons Act)
- cross-profession negotiations associated with new work environments such as general practice, outpatient services, multi-purpose services, community health providers and the associated cross-profession negotiations
- establishment of new referral networks and practice agreements with the full spectrum of health service providers
- maximising access to new technologies for ongoing training, clinical supervision and support including improved access to telemedicine
- the development of evaluation strategies to determine the immediate and long-term impacts of new health provider models on patient outcomes, burden of disease and whether or not these initiatives provide systemic relief for the health system.

The importance of implementing an evaluation mechanism in these types of programs to ensure that the strategic aims and objectives are being met has been emphasised in the literature. One of the core functions of program evaluation is to ensure that the program curriculum and focus is aligned with the health care needs of the community, and these need to remain flexible to reflect changes in community health care needs. A strategy for evaluating the effectiveness of this expanded practice program on improving the health outcomes of people living in rural and remote areas is currently being developed.

A number of other issues are likely to require consideration. These include:

- managing health consumer expectations
- professional regulation and associated industrial issues such as appropriate re-numeration for an expanded skill set
- health services culture reform; and in the case of paramedic engagement with the broader public health system and philosophy, extended training places to meet demand for the new roles, and re-examination of workforce planning strategies to ensure that the emergency response capability of Queensland is secured while expansion to the proposed new roles is facilitated.
Conclusions

Queensland Ambulance Service has taken a public health approach to helping to fill gaps in health care access in rural and remote communities. This approach includes an expanded paramedic practice model, driven by identified regional community needs. Evaluation of this initiative will commence in 2007 but it is possible that other rural and remote communities in Australia could potentially benefit from similar program developments.

References


Presenter

Steve Raven has been an advanced care paramedic with the Queensland Ambulance Service for 17 years. His interest in research was stimulated after obtaining an undergraduate degree in Psychology, followed by an Honours degree (Queensland University of Technology). Steve was initially seconded to the Australian Centre for Prehospital Research to complete a project that explored expanded paramedic health care roles in Queensland. He is currently working on the national pandemic influenza study at the centre.