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Title: The rural and regional ambulance paramedic: moving beyond emergency response.

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Abstract: Serious long-term recruitment and retention problems among rural health workers in Australia have contributed to inequitable health service access for rural Australians. In response new health care models with flexible workforce roles are emerging, including expanded-scope paramedic roles. Objective This research project addressed the need to develop more flexible and integrated services to improve rural Australians' health outcomes with a primary focus on the role of ambulance service personnel. The principal objective was to identify Australian and international trends in the evolving role of ambulance paramedics and to determine the key characteristics, roles and expected outcomes for an Expanded Scope of Practice (ESP) that are desirable, feasible and acceptable to key stakeholders. Research design Multiple case study methodology involving partner investigators and ambulance professionals as research associates. This study of ambulance practice was set in rural Tasmania, New South Wales, South Australia and Victoria innovative models of rural ambulance practice are evolving. Findings Paramedics are increasingly becoming first line primary health care providers in many small rural communities as the provision of other health care services contract. Within these emerging ESP models, paramedics are developing professional responsibilities throughout the cycle of care, through: 'more active community involvement and support;' expansion of their capacity to work in partnership with other health providers in institutional settings or as part of the primary health system; and 'the development of broader scopes of practice for paramedics in response to changes in technology, education and the ongoing shortage of other health professionals. Conclusions This research project has reviewed and analysed the emerging roles of paramedics in rural and regional areas. Its outcomes have the potential to set strategic directions for an ESP paramedic role for rural ambulance services in Australia

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The rural and regional ambulance paramedic: moving beyond emergency response

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Abstract

Serious long-term recruitment and retention problems among rural health workers in Australia have contributed to inequitable health service access for rural Australians. In response new health care models with flexible workforce roles are emerging, including expanded-scope paramedic roles.

Objective

This research project addressed the need to develop more flexible and integrated services to improve rural Australians' health outcomes with a primary focus on the role of ambulance service personnel.

The principal objective was to identify Australian and international trends in the evolving role of ambulance paramedics and to determine the key characteristics, roles and expected outcomes for an Expanded Scope of Practice (ESP) that are desirable, feasible and acceptable to key stakeholders.

Research design

Multiple case study methodology involving partner investigators and ambulance professionals as research associates. This study of ambulance practice was set in rural Tasmania, New South Wales, South Australia and Victoria innovative models of rural ambulance practice are evolving.

Findings

Paramedics are increasingly becoming first line primary health care providers in many small rural communities as the provision of other health care services contract. Within these emerging ESP models, paramedics are developing professional responsibilities throughout the cycle of care, through:

- more active community involvement and support;
- expansion of their capacity to work in partnership with other health providers in institutional settings or as part of the primary health system; and
- the development of broader scopes of practice for paramedics in response to changes in technology, education and the ongoing shortage of other health professionals.

Conclusions

This research project has reviewed and analysed the emerging roles of paramedics in rural and regional areas. Its outcomes have the potential to set strategic directions for an ESP paramedic role for rural ambulance services in Australia. Expanding ambulance paramedics' scope of practice offers the potential to improve patient care and the general health of the community. The industry partnership approach between ambulance authorities and universities has increased the research capacity of Australian pre-hospital services.

The findings and recommendations are consistent with the general thrust of the recent Productivity Commission report on health workforce issues that emphasised the importance of designing and operating services that are both effective and efficient.

Context

Serious long-term recruitment and retention problems among rural health workers have contributed to inequitable health service access for rural Australians. In response new health care models with flexible workforce roles are emerging, including expanded-scope paramedic roles.[1]

In common with paramedics throughout the developed world, Australian paramedics have the potential to be more closely integrated with other health service providers, and to more effectively utilise periods when they are not responding to emergency calls. Some key factors driving this dialogue on expanded scopes of practice for paramedics are: increasing demand in hospital emergency departments; decreasing home visiting by medical practitioners; and the increasing professionalisation of paramedics.[2-6] While clear that the need exists for some form of better trained paramedic, the form of this emerging role is more uncertain.

Internationally, key organisations are beginning to embrace expanded-scope paramedic roles. The USA *EMS Agenda for the Future* envisions emergency medical services undertaking a community-based health management role that is fully integrated with the overall health system.[6] In the United Kingdom, the Joint Royal Colleges and Ambulance Liaison Committee has set the agenda for expanding the scope of ambulance practice.[7] These new paramedic models incorporate the chain of survival concept, but increase the depth of treatment and clinical decision-making, and include primary care activities.[8]

The National Rural Health Association in the United States has developed a paper, *Rural and Frontier Emergency Medical Services: Agenda for the Future*, that identifies that rural and frontier EMS systems of the future will need to assure a rapid response with basic and advanced levels of care as appropriate to each emergency: they will serve as a formal community resource for prevention, evaluation, care, triage, referral, and advice. They see at its foundation a mix of volunteer and paid professionals at all levels, as appropriate for and as determined by the community.[9] In the United Kingdom, a significant development in response to these demands has been the emergence of the Emergency Care Practitioner (ECP). In these innovations, paramedics have been given additional assessment, treatment and referral skills to deal with a range of minor injuries and falls cases.[2, 3, 5, 10-12]

Any changes to paramedic roles need to be well thought out and care taken to ensure that any expansion of the paramedic role does not compromise emergency response and that appropriate educational programs are in place.[13] If the Rural Expanded Scope of Practice (RESP) model is to be embraced as part of an integrated health care system, its introduction needs to be closely scrutinised to ensure that any changes have positive public health outcomes.[14, 15]

Research aims and design

The research aimed to identify Australian and international trends in the evolving role of paramedics to identify a rural expanded scope of practice for Australian rural and regional paramedics. For the first time in Australia a multi-state approach was taken to ambulance personnel roles and education, where each extended paramedic role provided a distinct case for description and analysis. The in-depth nature of the case study data collection allowed inclusion of relevant inter-professional interactions and important cultural factors. A feature of the project was its concentration on field research that captured the views of practising health professionals and paramedics, and where possible members of local communities.

The respective state ambulance authorities nominated the sites that constituted the case studies on the basis of them being examples of innovation. Three sources of data were used: semi-structured interviews with key informants; observation of key processes and events; and review of documents which describe the paramedic role and the required organisational and educational support. This triangulation guarded against the case study data being unreliable through interviewer bias or inaccuracy.[16]



Each case study explored how the paramedic roles interact with other health professionals, health consumers and ambulance services in relation to the responsiveness, accessibility and continuity of care. The semi-structured interviews included questions about respondents' understanding of and attitude toward an expanded scope of practice role for paramedics, experiences of interactions with the role and expectations of how it could impact on the delivery of health services in rural areas. Potential enhancers and barriers to the extended role were identified as technology, education, organisational factors and legislation. Analysis was undertaken through both deductive and iterative processes as part of regular teleconferences and one face-to-face meeting of the whole research team following completion of data collection and the drafting of case studies.

A limitation was the inability to interview as many medical practitioners and members of the public as hoped. In the latter case, there were particular challenges in one state where the ambulance service had less well developed links with community members through volunteers and auxiliaries. These limitations resulted in a strong reliance on the literature and the specialist knowledge of the principal researchers during the analysis stage.

The case studies

Data from the four sites provided a rich tapestry of information, detailing aspects of health care delivery in diverse areas of four Australian states. In terms of topography and geography the four sites, which included coastal and mountain areas, river flats and forests and broad-acre farming plains, presented a diversity of features. They shared the characteristics of small populations with low population densities and all were relatively remote, being two to three hours by road from larger population centres.

The New South Wales case study was set in the south-west of the state. Coleambally and Barham were selected as typical rural communities in a relatively remote area. The overwhelming characteristic of this case study was the lack of any significant change in the roles and interactions of the paramedics, despite paramedics and other health professionals sharing a keenness to see some innovation that will help the local health system operate more effectively. The findings highlight the need to develop more flexible and integrated services, rather than uncritically continuing with traditional approaches.

The South Australian case study demonstrated the value of generating local solutions to local health workforce problems. This program established a process where rural hospitals can enter into an agreement with the ambulance service to supply an Intensive Care Paramedic for emergency departments when a doctor is unavailable. A significant feature of the program is that the paramedic role changes from the traditional 'scoop and run' or 'shifting the problem' to one that requires more assessment, stabilisation and treatment. It predominately operates in Bordertown located near the Victorian border with limited application at Pinnaroo and two other rural hospitals.

The Tasmanian case study examined the role of the *East Coast Paramedic*, and explored how this role has evolved into an extended scope of practice model. The East Coast Paramedic is located in Scamander and services the north-eastern region of Tasmania. The paramedic works as an autonomous practitioner operating in partnership with local volunteer units, hospitals, general practitioners and the community. It requires strong teamwork, clear communication and understanding between the paramedics, volunteers and other health professionals. In this case, the paramedics had the flexibility to extend their roles and adapt to the communities in which they practise.

The Victorian project was developed because the traditional volunteer service delivery model was not fully meeting the needs of the Omeo and Mallacoota communities. A non-traditional model of service delivery model was developed with local communities and other interested parties.[17] As the emergency workload was too low to support a full time paramedic presence the concept of the *Paramedic Community Support Coordinator* was introduced. This model was designed to integrate a paramedic with an expanded scope of practice into the community and to support volunteer ambulance staff. The role provides public health and pre-hospital care education to the community and other health care providers, and assists with the recruitment, training and retainment of volunteer ambulance staff.

A rural model of practice

It is a combined role and you also extend that further to outside of the branch and there is more community involvement and more involvement with other health organisations and emergency organisations up here as well. So it seems it is quite a broad range of tasks as opposed to being somebody who is on the road all the time.

From a rural perspective, communities expect adequately resourced ambulance services that are able to respond quickly to their needs with well-trained staff who behave in a professional manner.[18] Ambulance services have responded to these needs and expectations of smaller communities in a variety of ways, ranging from providing voluntary systems to the appointment of full-time staff at sometimes advanced clinical levels. However, both these models of service delivery have problems related to sustainability and the maintenance of standards.

The suggested rural expanded scope of practice model is built around three domains of practice:

- emergency response through primary response to incidents or in support of volunteer services
- clinical care given in the out-of-hospital or institutional settings
- community engagement.

The communities in the case studies shared common environmental issues. These included their small size and isolation from major health services, their difficulty in recruiting and retaining health professionals, low caseloads and associated risks of de-skilling, and a reliance on volunteers and/or sole paramedics in emergency services. Many of the interviewees in the case studies raised the possibility of extending or acknowledging an extended scope of practice for paramedics, while others were concerned about the difficulty of maintaining existing skills in low workload areas.

There is a potential for loss of these skills in areas of low workloads. Confidence and performance may drop simply due to a low caseload even if skills level does not. Giving extra skills may not be a solution to this.

The proposed rural expanded scope of practice model combines the strengths of both the community-volunteer and practitioner models.[19, 20] Melding these two existing models into a new, practical and acceptable model will be useful in diverse rural settings outside major regional centres where greater use can be made of mixed staffing configurations. This would see community volunteers or first responders working in integrated teams with expanded scope paramedics.

Our proposed model is called the **Rural Expanded Scope of Practice (RESP)** and its practitioners will undertake the following activities as the core components of their new role.

- Rural community engagement
- Emergency response
- Scope of practice extension
- Primary health care

Rural community engagement encompasses extended paramedic roles in health and emergency service planning and development, and a more active role in primary health care such as health education and screening. This enrichment of the role will see a significant increase in the professional profile of paramedics in the community. In the case studies, we witnessed and were told of the high esteem in which the paramedics were already held in the community.

The personality and the way in which the person works is as important to me as that high level of clinical skills that they have because I am really so happy that we have got a fellow like [name deleted] appointed to [town X]. If it was someone who had a high level of clinical skills but wasn't such a good communicator, the position I don't think would be as effective.



Emergency response includes the traditional role of responding to incidents or in support of volunteer and first responder services. The main challenge that this new model faces is convincing paramedics and others to extend the role beyond this core activity.

People don't quite understand the roles that our bureaucracies give us particularly well, in that they don't understand that Ambulance Officers or the Ambulance Service is primarily concerned with the provision of emergency care.

Scope of practice extension can take place in either out-of-hospital or institutional settings. Central to this extension of practice scope is the ability to competently assess, treat and release patients when appropriate or transport patients to hospitals. More use may be made of paramedic knowledge and skills in medical clinics and hospitals. These 'adjunct' roles in hospitals and medical facilities may include assistance with airway management, the taking of blood pressures and pathology samples, assisting with the management of 'difficult' patients, and the stabilisation of patients. There may also be scope for these minor injury roles to be extended beyond basic first aid in occupational settings such as mines and factories, and in extreme field situations, such bush fires, wars and major disasters.[9]

Primary health care integration would see paramedics taking an active role with other health professionals in the treatment of minor injuries and in the provision of primary health care. Potential activities that could be undertaken during 'down time' could include activities such as health education and screening.

Compared to nursing or hospital [situations] the paramedic gets more of an insight into the patient's overall condition, medical as well as social. The paramedic can see more of the requirements for other resources as many patients are elderly, live alone, have lost a partner, have many different social aspects that may not be witnessed in hospital or by other medical staff.

In addition to their 'life saving' role, paramedics can have a positive role in promoting healthy lifestyles and preventing death and injury through public education programs. These features are based on the view that pre-hospital care as an integral part of the local community and is integrated into the health care system, with professional staff sharing roles that best utilise their skills and knowledge.

The extent to which paramedics are able to become engaged in primary health care activities depends on their education and training, their legal status, and their availability after fulfilling their primary functions in emergency medical care and transportation. Local paramedics would need to tailor their initiatives according to local epidemiological defined realities as rural areas are very different from one another.[21]

Strengths and challenges of the RESP model

The RESP model has historical links to ambulance tradition and practice throughout Australia where volunteers formed the genesis of most civilian ambulance systems. More recently paramedics have formed strong bonds with the established health professions and are seen as an emerging health profession. The challenge is to implement a model that marries the strengths of the community-volunteer model to the emerging professionalism of paramedics.

The RESP model is well suited to rural areas with high ambulance 'down-time' and a dearth of public health workers. In New South Wales for instance, it has been recognised for some time that the role of paramedics in small rural towns needs to be redefined if small rural communities are to make the most of their limited resources. [22] Paramedics also feel a need to use their time and skills effectively.

... it's less harmonious in a way when you get three people on duty sitting around here all day in this little office and we haven't had a job now, we had one job in four days. Now that's frustrating. You get a job comes in during the day and there's three on, obviously everyone wants to go. Well you just can't do that.

The essential difference between the RESP model and the widespread urban orientated models used in some parts of rural Australia is its extension beyond the well accepted chain of survival's four links at the site of the emergency event – early recognition and call for help, early CPR, early defibrillation, early advanced cardiac life support.[23–25] Expanding the depth of treatment and clinical decision-making, and the inclusion of primary health care and public health activities both before and after the chain of survival is an extension to ambulance practice.

A significant strength of the RESP model is that it draws social and political support from members of the public, volunteers and health care professionals who work with and alongside paramedics. This feature may make the RESP model more resilient and less prone to 'capture' by any single stakeholder group such as local hospitals and ambulance unions. Its key features are its capacity to integrate the existing professional and community-volunteer ambulance models with public health and social service agencies, primary care providers and other health care facilities to ensure that patients are referred to or transported to the most appropriate and cost-effective facility. This ensures that pre-hospital care occurs as part of a seamless system that provides patients with well-organised and high quality care.

Discussion

The roles of health professionals and health service organisations continue to evolve. Increasing knowledge and skills, together with legal requirements of practice, have led to an understanding that health professionals should only undertake those activities for which they are recognised as competent. Similarly, the role of health care services is evolving with hospital care no longer confined to the physical location of the service. At the same time communities are expressing their needs for local health services, with such requests usually reflecting increased expectations. However, despite a range of government initiatives, rural areas do not have equivalent levels of health care to metropolitan areas and there is a continuing concern about the sustainability of nursing and medical practitioner workforces in smaller rural areas.

Into this ever-changing environment has now been introduced the extended scope paramedic, who brings the skills of a competent paramedic with advanced skills in emergency management. Many respondents in this study recognised that paramedics' previous work experience provides them with knowledge and experience that allows them to undertake broader roles than has previously been the case. Paramedics are increasingly becoming first line primary health care providers in many small rural communities as other health care services contract. Within these emerging expanded scopes of practice models, paramedics are developing professional responsibilities throughout the cycle of care, through:

- more active community involvement and support
- expansion of their capacity to work in partnership with other health providers in institutional settings or as part of the primary health care system
- the development of broader scopes of practice for paramedics in response to changes in technology, education and the ongoing shortage of other health professionals.

Our findings have shown that paramedics can contribute to an improvement in health care service provision and further expansion of the paramedic role may be possible. However, the feasibility and desirability of this is yet to be proven. Apart from advanced life support knowledge and skill the RESP paramedics appointed to small rural communities will need a broad range of knowledge and skills that will enable them to make a positive contribution to patient care and community health. Of particular relevance are well developed interpersonal skills and the ability to build relationships with local and regional stakeholders.

Greater integration of paramedics with rural communities and the health system will also require ambulance authorities and the profession itself take an active role in the process of building partnerships and forming alliances. The collaborative aspect of this project that facilitated ambulance authorities to share experiences and innovations has been an important Australian hallmark. Using this



process as the basis for future collaborations could result in Australian ambulance services becoming more cohesive and more prepared to share their knowledge base and avoid 'reinventing the wheel'.

As a result of our research, analysis and reflection we recommend that the following rural health issues be progressively addressed. Firstly, within the policy environment, sufficient resources need to be made available to enable ambulance services to meet the needs and expectations of rural communities on an equitable basis. Ambulance services also need to evolve in a way that will accommodate more independent paramedics who are integrated into the health system and their local communities.

Secondly, the RESP model needs to be broadly supported as an integral part of mainstream ambulance services through formally defined position descriptions and other forms of recognition. In order to introduce the innovation in a collaborative manner, efforts should also be made to build a strong network of multi-disciplinary practitioners who will support the model in rural Australia.

Thirdly, in terms of community engagement, the introduction of the RESP Model needs to be based on the values, priorities and capacity of the communities they serve. For the model to provide extended benefits to communities and volunteers, ambulance services should clearly define community interaction goals and ensure paramedics have the appropriate leadership and networking skills as it is clear from previous studies that poor skills in these areas can create conflict and retention difficulties.[26, 27]

Fourthly, while the RESP model has the potential to improve the health workforce situation and contribute to improved health and safety in rural and remote areas, to be effective and sustainable it must be underpinned by a robust education system. It is apparent that the role of the RESP paramedics needs an undergraduate education that provides them with the knowledge, understanding, skill and professional attitudes that will enable them to operate as independent practitioners. The current transfer of paramedic education from state ambulance authorities to universities has the potential to meet this need in coming years.

The description and analysis of this innovative model of ambulance service delivery has set strategic directions for an expanded scope of practice paramedic role for rural and regional Australia. The RESP model has the capacity to facilitate a higher quality and more equitable ambulance service for rural and regional communities. This has occurred in several of the case studies through an increased use of the capacities of the ambulance system, and through an increase in the clinical capabilities of paramedics and volunteer staff. The support and involvement of other health care professionals and members of the community was an essential features of the successful innovations described here.

References

1. Productivity Commission, *The Health Workforce. Research Report.*, Productivity Commission, Editor. 2005.
2. Mason, S., Wardrope, J., and Perrin, J., *Developing a community paramedic practitioner intermediate care support scheme for older people with minor conditions.* Emergency Medicine Journal online, 2003. **20**: p. 196-198.
3. Navein, J. and J. McNeil, *The Surrey Emergency Care System: a countrywide initiative for change.* Emergency Medicine Journal online, 2003. **20**: p. 192-195.
4. Chilton, M., *A brief analysis of trends in pre-hospital care services and a vision for the future.* Journal of Emergency Primary Health Care (JEPHC), 2004. **2**(1-2).
5. Mason, S., et al., *The evolution of the emergency care practitioner role in England: experiences and impact.* Emerg Med J, 2006. **23**(6): p. 435-439.
6. National Highway Traffic Safety Administrator, *Emergency Medical Services Agenda for the Future.* 1996, National Highway Traffic Safety Administrator.
7. Joint Royal Colleges Ambulance Liaison Committee. *The future role and education of paramedic ambulance service personnel (emerging concepts).* [Web Resource] 2000 [cited 2000 4 August]; Available from: http://www.asancep.org.us/JRCALC/pec_concepts.htm.

8. O'Meara, P., *Models of Ambulance Service Delivery for Rural Victoria.*, in *School of Public Health and Community Medicine*. 2002, University of New South Wales: Sydney.
9. McGinnis, K., *Rural and Frontier Emergency Medical Services: Agenda for the Future*. 2004, National Rural Health Association: USA.
10. Woollard, M., *Emergency Calls not requiring an urgent ambulance response: expert consensus*. *Pre-hospital Emergency Care*, 2003. **7**(3): p. 384.
11. Cooper, S., Barrett, B., Black, S., et al., *The emerging role of the emergency care practitioner*. *Emerg Med J*, 2004. **21**(5): p. 614-618.
12. Bradley, P., *Taking Healthcare to the patient – Transforming NHS Ambulance Services.*, Department of Health, Editor. 2005.
13. O'Meara, P., Walker, J., Stirling, C., et al., *The rural and regional paramedic: moving beyond emergency response*. . 2006 Charles Sturt University: Bathurst.
14. Bissell, R.A., Seaman, K.G., Bass, R.R. , et al., *Change the scope of practice of paramedics? An EMS/public health policy perspective*. *Prehospital Emergency Care*, 1999. **3**(2): p. 140-149.
15. Bissell, R.A., Seaman, K.G., Bass, R.R. , et al., *A medically wise approach to expanding the role of paramedics as physician extenders*. *Prehospital Emergency Care*, 1999. **3**(2): p. 170-173.
16. Yin, R., *Application of Case Study Research*. 2003, London: SAGE Publications.
17. O'Meara, P., Kendall, D., and Kendall, L., *Working together for a sustainable urgent care system: a Case Study from South Eastern Australia*. *Journal of Rural and Remote Health*, 2004. **4**(312).
18. O'Meara, P., *Professional and community expectations of rural ambulance services in Australia*. *Pre-hospital Immediate Care*, 2001. **5**(1): p. 27-30.
19. O'Meara, P., *The prehospital community-volunteer model has a place in rural Australia*. . *Journal of Emergency Primary Health Care (JEPHC)* 2003. **1**(1-2).
20. O'Meara, P., *Would a prehospital practitioner model improve patient care in rural Australia?* *Emergency Medicine Journal online*, 2003. **20**: p. 199-203.
21. Rothe, J., *PEMS in Rural/Small Urban Alberta: and analysis of seen-but-unnoticed features that influence patient care*. . 2002 Alberta Centre for Injury Control and Research. University of Alberta.
22. Sinclair, I., *NSW Ministerial Advisory Committee on Health Services in Smaller Towns. A framework for change.*, NSW Health, Editor. 2000.
23. Stiell, I.G., *Cardiac Arrest in Your Community: Are There Weak Links in the Chain of Survival?* *Canadian Medical Association Journal*, 1993. **149**(5): p. 563-565.
24. Strattan, S., and Niemann, J.T., *Effects of Adding Links to "The Chain of Survival" for Prehospital Cardiac Arrest: A Contrast in Outcomes in 1975 and 1995 at a Single institution*. *Annals of Emergency Medicine*, 1998. **30**(4): p. 471-477.
25. Jacobs, I., Callanan, V., Nichol, G. , et al., *The Chain of Survival*. *Annals of Emergency Medicine*, 2001. **37**(4): p. S5-S16.
26. Fahey, C., Walker, J., and Lennox, G., *Flexible, Focused Training Keeps Volunteer Ambulance Officers*. *Journal of Emergency Primary Health Care (JEPHC)*, 2003. **1**(1-2).
27. Fahey, C., and Walker, J., *Emergency Services in Australia and New Zealand: Problems and prospects for Volunteer Ambulance Officers*. 2002, University of Tasmania: Hobart.

Presenter

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