# THE RURAL AND REGIONAL PARAMEDIC: moving beyond emergency response

## Report to The Council of Ambulance Authorities Inc

O'Meara, Walker, Stirling, Pedler, Tourle, Davis, Jennings, Mulholland, Wray.

March 2006

**Paramedic** Throughout this report, the term 'paramedic' is used in a general sense to describe any qualified ambulance officer. The four ambulance services taking part in the research use different nomenclature to describe their paramedics and those with advanced or extended skills (*see table 2*).

**Authorship** The Principal Investigators take overall responsibility for the content of this report.

**Disclaimer** The views contained in this report are those of the authors and not necessarily those of any of the report's contributors or the Council of Ambulance Authorities Inc.


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The research team would like to thank the interviewees for giving their time and thoughtful insights about the emerging role of rural paramedics. Words from paramedics, their families, community members, health and emergency workers are quoted anonymously throughout this report.

We also thank staff and research associates from the participating ambulance authorities, in particular the senior staff for their contributions throughout the life of the project. The authorities also facilitated access to their infrastructure, databases and staff connected with the respective case studies.

Crucial to the success of the research was the contribution of the ambulance Research Associates who collected and analysed data in the case studies. These learning activities are consistent with the ambulance services' desire to enhance the skill base of key staff, and to build strategic alliances with the higher education sector in an effort to improve their recruitment and retention of staff in rural and remote regions.

The project's success was also made possible through prudent and economical use of available funds, imaginative problem-solving, cooperative, ethical and generous behaviours. Team members freely contributed extra personal time, physical resources, personal and professional contacts to the tasks at hand. We also thank

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# The Rural and Regional Paramedic: moving beyond emergency response

**Report to The Council of Ambulance Authorities Inc**

**March 2006**

**Peter O'Meara, Judi Walker, Christine Stirling, Daryl Pedler, Vianne Tourle, Kristina Davis, Paul Jennings, Peter Mulholland, Denis Wray**
**Peter Morgan (Literature Review)**

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## VOLUME 1

# Summary

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

This research project was born from the view that expanding ambulance paramedics' scope of practice offers the potential to improve patient care and the general health of the community. New healthcare models with flexible workforce roles are clearly needed in rural Australia and expanded-scope paramedic roles are valuable innovations.

## Research Objectives

This research project aimed to identify Australian and international trends in the evolving role of paramedics and through studying existing innovations in rural Australia to identify a rural expanded scope of practice for rural paramedics.

The research objectives were to:

1. identify Australian and international trends in the evolving role of ambulance paramedics;
2. compare alternative models of ambulance practice that are emerging in rural and regional Australia;
3. determine the key characteristics, roles and expected outcomes for an expanded scope of practice that are desirable, feasible and acceptable to key stakeholders;
4. identify the knowledge, skills and educational requirements necessary for expanded scope of practice roles; and
5. develop an expamded scope of practice model that assists ambulance services to set strategic directions in Australia.

It was the first time a multi-state approach had been taken to ambulance personnel roles and education. An important element of the research was the recruitment and training of ambulance professionals as research associates to help increase the research capacity of Australian ambulance services.



## Case Studies

(*see Chapter 2*)

The project used a multiple case study approach to examine emerging and potential ESP paramedic roles in rural settings. The case studies were set in rural New South Wales, South Australia, Tasmania and Victoria.

The individual ambulance authorities selected the four case studies for this research. Each of them is distinct and not readily comparable, however they share key characteristics such as their rural environment, relatively small populations, their location within the health and emergency management systems, and finally the requirement that they adapt and change in response to changing needs and expectations generated in the social and political systems.

Several issues formed a common thread throughout each of the visits and interviews: expanded scope of practice, working with other health professionals, interactions with communities and volunteers, education and training issues, and the cultural change within the ambulance profession.

The **New South Wales** case study was set in the south-west of the State and it highlighted the lack of any significant change in the roles and interactions of the paramedic in these small communities. However, it was clear that the paramedics and other health professionals are keen to see the development of more flexible and integrated services.

The **South Australian** case study demonstrates the value of generating local solutions to local health workforce problems. The program provided a means for the ambulance service to demonstrate their willingness and capacity to work more closely with the health system through the establishment of 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.

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 paramedic operates as an autonomous practitioner in partnership with local volunteer units, hospitals, general practitioners and the community. It requires strong teamwork, clear communication and understanding between the volunteers and the paramedic.

The **Victorian** project was developed because the traditional volunteer service delivery model was not fully meeting the needs of two small communities in East Gippsland. A non-traditional model of service delivery model was developed with local communities that would provide more support to volunteer ambulance officers and improve integration with other health services. The *Paramedic Community Support Coordinator* 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 Paramedic Model

(*see Chapter 3.1*)

Although each of the case studies was unique, the research confirmed that paramedics are increasingly becoming first line primary health care providers in many small rural communities as other health care services contract. We have called our model the Rural Expanded Scope of Practice (RESP) Model and its practitioners will undertake four core activities in this role. These are described as:

**R**ural community engagement

**E**mergency response

**S**cope of practice extension

**P**rimary health care

These 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.

The RESP Model combines the strengths of the traditional community-volunteer model and the emerging practitioner model. Melding these two existing models into a practical and acceptable new model will be particularly attractive in diverse rural settings outside major regional centres where greater use can be made of staffing configurations that include both professional and volunteer ambulance personnel. The model has the potential to be more cost-effective than urban models, and promises improved access to an appropriate level of clinical care for people in rural communities.

## Strategic direction

Greater integration of paramedics with rural communities and with the health system will require that ambulance authorities and the profession itself take an active role in the process. One positive outcome of this project has been the effort that has been made to share experiences and innovations. Future collaborations could result in Australian ambulance services becoming more cohesive and more prepared to share their knowledge base and avoid 'reinventing the wheel', saving precious time and money.

As a result of our research, analysis and reflection we offer in the concluding chapter a range of points for consideration in the areas of:

- policy environment;
- role definition, recognition and support;
- community engagement; and
- education and training.



# 1. Introduction

## *1.1 Background and Context*

This research project, *Beyond Emergency Response*, has 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 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 (Productivity Commission 2005a,b,c).

The School of Public Health at Charles Sturt University, the University of Tasmania's Department of Rural Health and Rural Clinical School and Monash University School of Rural Health carried out the study in collaboration with State ambulance authorities in New South Wales, South Australia, Tasmania and Victoria. The Council of Ambulance Authorities Inc. (CAA) provided cash funding for the project, with ambulance authorities and the three universities providing cash and in-kind support. This was the first time a multi-state approach had been taken to ambulance personnel roles and education, as opposed to individual initiatives in the different states and territories. This approach enabled the researchers to benefit from being exposed to the diversity of service delivery models and more recent innovations in each of the participating states.

Set in rural South Eastern Australia, the project used a multi-site case study approach to explore the issues surrounding the development of alternate approaches to the provision of pre-hospital care in small rural communities. This new model of service delivery needs to be seen in the context of the emergence of more flexible roles for rural and regional health workers in Australia in response to serious long-term recruitment and retention problems (Walker, 2003). This project emerged as a result of these challenges along with the recognition that the roles of paramedics in rural Australia were changing in response to local challenges.

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. In addition, any innovation of this type would need to take account of the *Healthy Horizons* framework that is a guide for the future directions of health programs and services in rural and regional Australia. Key priorities are the development of flexible, integrated services with a responsive workforce supported by research (National Rural Health Alliance, 2003).

The *Beyond Emergency Response* project has significance for the health of rural and regional Australians and for Australian and international ambulance services. It directly addresses the need to develop more flexible and integrated services, based on research evidence, to improve rural Australians health outcomes.

The primary objectives of the project were to:

1. Identify Australian and international trends in the evolving role of ambulance paramedics;

2. Compare alternative models of ambulance practice that are emerging in rural and regional Tasmania, New South Wales, South Australia and Victoria; and

3. Determine the key characteristics, roles and expected outcomes for an Expanded Scope of Practice that are desirable, feasible and acceptable to key stakeholders.

Secondary objectives were to:

1. Identify the knowledge, skills and educational requirements necessary for Expanded Scope of Practice roles; and

2. Develop an Expanded Scope of Practice model that assists Australian ambulance services to set strategic directions delivering health service in rural and regional Australia.

## Rationale for Change

In the context of rural Australia, 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 (Mason, Wardrope & Benn, 2003; Navein & McNeil, 2003).

Hugh Grantham, Medical Director for the South Australian Ambulance Service throws out the challenge to change the role of paramedics.

> "… paramedic level ambulance services have undergone considerable evolution over time. Pre-hospital care providers have been driven by the desire to improve patient treatment. It is now time to take the next step in this process and empower the paramedic to become a truly autonomous individual."
>
> (Grantham, 2002)

It is now accepted that there is a need for change in the models of ambulance service delivery. This has been identified in the United Kingdom, the United States, and to a lesser degree in Australia. It is clear that the need exists for some form of better trained paramedic, however, it is not clear what form that should take. Should we be training paramedics in more primary health care and advanced practices or should we train nurses in emergency primary health care?

The USA *Agenda for the Future* envisions emergency medical services (EMS) undertaking a community-based health management role that is fully integrated with the overall health system (National Highway Traffic Safety Administrator, 1996). In the United Kingdom, the Joint Royal Colleges and Ambulance Liaison Committee has set the agenda for expanding the scope of ambulance practice (Joint Royal Colleges Ambulance Liaison Committee, 2000). These new pre-hospital models incorporate the chain of survival concept, but increase the depth of treatment and clinical decision-making, and include primary care activities.

The National Rural Health Associations in the United States has developed a paper, *Rural and Frontier Emergency Medical Services: Agenda for the Future*, that identifies that rural - 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. (McGinnis, 2004).

> "Rural/ Frontier EMS providers must be well integrated with their public safety partners ... but EMS providers must learn to integrate as well with community health, medical and nursing partners if they are to bring the level and type of care to the community that it expects and are to continue to operate at all. Our survival depends on it."
>
> (McGinnis, 2004)



The body of evidence emerging from the literature clearly supports the view that paramedics are capable of fulfilling a different role in the community than they are currently undertaking (Alberti, 2004; The Ambulance Service Association, 2000a,2000b; American College of Emergency Physicians, 1999; Bilby, 2005a,2005b; Bissell et al. 1999a,1999b; Chilton, 2004a, 2004b; Clarke & Sagar, 2004; Cooper, Barrett et al., 2004; Doy, 2004; Garza, 1994; Grantham, 2002; Gunderson, 1996; Hsiao and Hedges, 1993; Kreigsman & Mace, 1998; Marysville Fire Department, 1999; Meade, 1998; National Health Service, 2004; Woollard & Ellis, 1999).

One of the most significant developments in response to these demands has been the emergence of the Emergency Care Practitioner (ECP) in the United Kingdom. In these innovations, paramedics have been given additional assessment, treatment and referral skills to deal with a range of minor injuries and falls cases (Bradley 2005).

McGinnis (2004) has translated these arguments into a vision for the future of rural and frontier EMS in the United States. This vision appears to be equally valid for rural Australia.

**Vision for Rural and Remote EMS Agenda**

The rural/frontier emergency medical service (EMS) system of the future will assure a rapid response with basic and advanced levels of care as appropriate to each emergency, and will serve as a formal community resource for prevention, evaluation, care, triage, referral and advice. Its foundation will be a dynamic mix of volunteer and paid professionals at all levels, for and determined by its community.

(McGinnis 2004: 9)

## *1.2 Research Approach*

The research aims and concepts for this project were novel for pre-hospital services in that they broke away from a focus on a single intervention or health problem. Research team members were drawn from three participating universities with strong expertise in rural health research and four Australian ambulance services. A multi-site case study methodology was used that saw the recruitment and training of ambulance professionals as research associates during the data collection and analysis stages.

The project used a multi-site case study approach, where each extended paramedic role provided a distinct case for description and analysis of performance. Case studies provide qualitative data that captures complex and interconnected situations (Shadish et al., 1991), while multiple case sampling increased confidence in the findings (Miles & Huberman, 1994). The in-depth nature of the case study data collection allowed inclusion of all relevant inter-professional interactions and important cultural factors. A feature of the project was its concentration on field research that captured the views of practicing health professionals and paramedics, and where possible members of local communities. This resulted in the views of senior management, unions and professional associations not being directly represented in the findings.

The respective ambulance authorities nominated the innovations and sites that constituted the case studies. Within each case study, 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 organizational and educational support. This triangulation guarded against the case study data being unreliable through interviewer bias or inaccuracy (Yin, 2003).

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.

A limitation of this research was our inability to interview as many medical practitioners and members of the public as we had hoped. In the latter case, we had particular challenges in those states where the ambulance services had less well developed links with community members through volunteers and auxiliaries. These limitations resulted in a strong reliance on the literature and the knowledge of the principal researchers in these areas of relevance.

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 the case studies.

A detailed research plan and relevant documentation is included in Volume 2 of this report.



## 1.3 Research Team

- **Chief Investigators**

*Associate Professor Peter O'Meara, Charles Sturt University*

Dr Peter O'Meara is the Associate Professor of Pre-hospital Care at Charles Sturt University in Bathurst, New South Wales. His ambulance service background is in Victorian rural ambulance services, where he worked until 1997. Peter has professional affiliations in rural health, pre-hospital care, health services management and emergency medicine. He is a peer-reviewer for the *Journal of Emergency Primary Health Care* and a number of other Australian rural health and society journals. Dr O'Meara is a Fellow and NSW Branch Board Member of the Australian College of Ambulance Professionals, Associate Fellow of the Australian College of Health Service Executives, and a Member of both the World Association for Disaster and Emergency Medicine and the Health Services Research Association of Australia and New Zealand. He is a member of the Ambulance Service of New South Wales Rural Health Strategy Working Group.

*Professor Judi Walker, Chief Executive and Professor of Rural Health, The Rural Clinical School, University of Tasmania*

Judi is Professor of Rural Health at the University of Tasmania and is currently Associate Dean (Teaching & Learning), Faculty of Health Science, Chief Executive of the Rural Clinical School and Deputy Chair of Academic Senate. She is also an executive member of the NHMRC Training Awards Committee and a member of the Australian Ambulance Education Committee. She has recently completed a major consultancy for the Council of Ambulance Authorities to develop Australian accreditation and assessment guidelines for university paramedic education programs.

*Ms Christine Stirling, Research Fellow, Department of Rural Health, University of Tasmania*

Christine Stirling (previously Fahey) is a Research Fellow with the University Department of Rural Health, Tasmania. Christine has been involved in researching volunteer ambulance officers since 2000 and is completing a PhD on the topic of volunteers and organisational governance. She is a member of the St John Ambulance Australia Member Development Advisory Panel. Her other research interests include innovative health systems for rural areas and program evaluation. She has published on the topic of volunteer governance and volunteer training as well as areas of rural nursing support, and she acts as a peer reviewer for several journals. Her background in community nursing has given her a good overview of the health system in action, a perspective she brings to her research work.

*Associate Professor Daryl Pedler, Director Gippsland Regional Clinical School, Monash University*

Dr Pedler has over 25 years experience in rural medicine and medical education. He was a rural GP in the small township of Cummins, Eyre Peninsula South Australia, for over 5 years. Almost eight years working for the RACGP Family Medicine Program, as Medical Educator and then State Director for South Australia-Northern Territory, followed. After moving to Warrnambool in south-west Victoria, he subsequently became Director of Emergency Services at South West Healthcare. Since February 2003, he has been Director of the Gippsland Regional Clinical School, Monash University. In 2002-3 he was a member of the Minister's Review Panel into the role of Divisions of General Practice. His particular interests include rural injuries, especially farm injury, linking clinical and community approached to population health and educational issues, especially the quality of learning experiences through small group learning.

- **Research Assistant (project management & analysis)**

*Ms Vianne Tourle, School of Public Health, Charles Sturt University*

Vianne's rural background, BEc, and experience in editing, research, administration, community and cultural development brought an outsiders' eye into the team. Resulting from this work, she has a new-found admiration for rural paramedics who work in extended roles, and she has new-found personal skills in wrangling academics, numbers and words.

- **Research Associates**

A crucial element of the project was the recruitment and training of four paramedic professionals as research associates to collect data and conduct local analysis. The positive impacts of this approach were twofold. Firstly, building research capacity in ambulance services. And secondly, it has given the research associates the opportunity to share ideas and perspectives across State boundaries.

*Kristina Davis, South Australian Ambulance Service*

Kristina has worked as an Intensive Care Paramedic for seven years. In this role, she has experienced first hand, the effect a struggling health care system is having on patient care. She has seen the aging population, shorter hospital stays, and a falls in the number of General Practitioners dramatically increase the volume of cases attended by paramedics. Kristina sees the paramedic as a readily available resource that could be utilized in many ways to relieve some pressure on our over worked health care system.

Through the project, Kristina discovered that the current skill set of the paramedic is not well known by the general public as well as many members of the medical profession. This highlights the failure of the profession to advertise how it has evolved in recent years. She also noted some health professionals 'fear' of where expanding the role of the paramedic will lead. She says, "There is room for us all. Is it not about time we started utilizing whatever resource is available, wherever it is available, in order to provide the best possible outcome for the patient?"

*Paul Jennings, Rural Ambulance Victoria*

Paul is a Clinical Educator with Rural Ambulance Victoria based at the Geelong Area Office. He is an Intensive Care Paramedic and also holds qualifications in Nursing. He has a keen interest in pre-hospital research and recently completed a Masters of Clinical Epidemiology by research, examining outcomes from cardiac arrest based on urban or rural locality. Paul oversees Ambulance Paramedic education in his region and is regularly involved in local clinical audit.

*Peter Mulholland, Tasmanian Ambulance Service*

Peter been involved with ambulance since 1986 following a brief six year career in general nursing. Initially trained and employed by Metropolitan Ambulance Service Melbourne, he moved to Wonthaggi in South Gippsland, before moving to Tasmania. He has trained to the level of Intensive Care Paramedic and has since worked in Launceston. Peter's current role is Clinical Support Officer with Tasmanian Ambulance Service.

This project has rekindled Peter's interest in research, and he is now enrolled in the Preliminary Masters degree program through the Department of Rural Health at The University of Tasmania. He has been awarded a Pre-hospital Bursary to undertake his studies.

Building on the *Beyond Emergency Response* project he intends to research aspects of the paramedic curriculum, asking whether it suits current needs, and above all, will it be suited to proposed future changes?

*Denis Wray, Ambulance Service of New South Wales*

Denis joined the Ambulance Service of New South Wales in 1974, certified as an Advanced Life Support Officer in 1986 and has worked as an ambulance officer in various Sydney and the Greater Murray locations. He has held executive positions in the Health Services Union and has served on numerous rural health committees. In 2000, Denis was seconded to assist consultants from the United Kingdom to review the operations of the Service. In 2004 as project manager, Denis completed a major project that reviewed alternative models of ambulance service delivery to communities in rural NSW. He currently works in Service Planning and provides support to the Clinical Services Unit.

- **Literature Review**

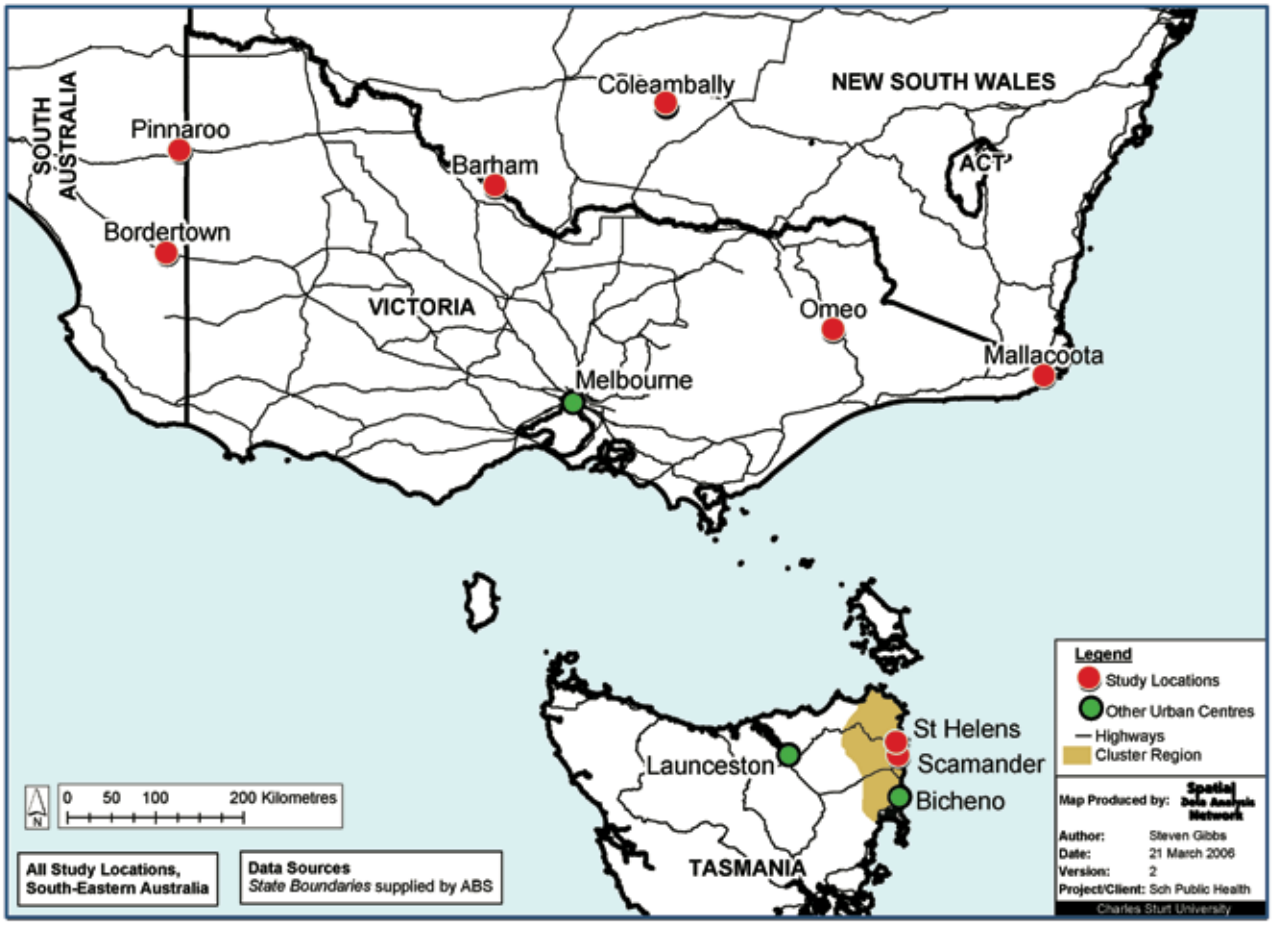
*Peter Morgan, MMedSc candidate, University of Tasmania and Tasmanian Ambulance Service*

# 2. Case Studies

## 2.1 Overview

The individual ambulance authorities selected four case studies for this research project examining the roles of rural and regional paramedics (Figure 1). Each of them is distinct and not readily comparable, however they share key characteristics such as their rural environment, relatively small populations, their location within the health and emergency management systems, and finally the requirement that they adapt and change in response to changing needs and expectations generated in the social and political systems.

*Figure 1* ***Case Study Sites***




The process of completing these case studies involved site visits in four States where interviews were undertaken with ambulance service staff (paid and volunteer-retained), other health professionals and members of the public. The visits and interviews provided a rich source of data that were critical in understanding the rich diversity of Australia's rural ambulance services.

Several issues formed a common thread throughout each of the visits and interviews: expanded scope of practice; working with other health professionals; interactions with communities and volunteers; education and training issues; and the cultural change within the ambulance profession.

*Table 1* ***Case Studies: Demographic Summary***

| State | Location | Population | Males (%) | Median age | Aged > 65yrs (%) | Working (%) | Indigenous (%) | Notes |
|---|---|---|---|---|---|---|---|---|
| NSW | Barham | 1852 | 49.7% | 46-48 | 28.2% | 36.1% | 1.2% | |
| | Coleambally | 213 | 56.8% | 34 | 10.7% | 43.7% | 1.4% | |
| SA | Bordertown | 2401 | 51.6% | 29-39 | 15.5% | 47.6% | 0.5% | |
| | Pinnaroo | 596 | 51.4% | 38-39 | 18.5% | 43.6% | 0.5% | |
| TAS | St Helen's | 1786 | 49.8% | 41-53 | 25.0% | 30.1% | 3.7% | |
| | St Mary's | 538 | 49.6% | 40 | 13.7% | 29.4% | 4.1% | |
| | Break O'Day LGA | 5553 | 51.2% | 43 | 16.8% | 30.9% | 2.9% | Population doubles in summer. LGA is 3,521 sq.km. |
| VIC | Omeo | 234 | 50.2% | 37 | 12.4% | 60.3% | 0.0% | Population increases in winter |
| | Mallacoota | 1041 | 50.7% | 43-47 | 19.6% | 38.7% | 0.3% | Population increases in summer |

*Notes: Data sourced from ABS 2001 Census of Population and Housing (2003). Figures are based on census counts from census collection districts rather than estimated residential population.*



*Table 2* ***Case Studies: Health and Emergency Services Summary***

| Location | Ambulance Services<br>Staffing, caseload | Health Services<br>GPs, hospital, emergency |
|---|---|---|
| **Barham NSW** | 4 full-time ambulance officers.<br>8-hour day shifts plus on-call.<br>427 incidents pa | 3 GPs in private practice, & as hospital VMOs.<br>District hospital with A&E. |
| **Coleambally NSW** | 3 full-time ambulance officers.<br>8-hour day shifts plus on-call.<br>320 incidents pa | One GP, 3 days per week.<br>No hospital.<br>SES presence. |
| **Bordertown SA** | Visiting Hospital Intensive Care Paramedic (contract).<br>36 Volunteer Ambulance Officers<br>272 (220 emergency, 52 non-emergency) cases pa (1.) | 4 GPs, 2 clinics; on-call for hospital.<br>Bordertown Hospital: 20 acute, 42 aged care/other beds. 5,500 A&E pa; fortnightly day surgery. |
| **Pinnaroo SA** | Visiting Hospital Intensive Care Paramedic (contract).<br>28 Volunteer Ambulance Officers<br>83 (55 emergency, 28 non-emergency) cases pa (1.) | One GP, on-call. Hospital owns the practice, & recruits mainly overseas trained GPs.<br>Pinnaroo hospital: 8 acute beds, 23 aged care/ other beds; A&E 3,000pa. |
| **East Coast TAS cluster region** | East Coast ALS Paramedic based in Scamander. Two incumbents, sole workers, 4 days on/ 4 days off.<br>444 emergency cases pa attended by Paramedic (2004). Other cases attended by volunteers, or were transfer only.<br>Paramedic also works with Volunteer Ambulance Officer units at St Helens (21members), St Marys (16), Coles Bay (8), Swansea (10) & Bicheno (7). Scamander has no volunteer unit. | **St Helens:** 2 permanent GPs.<br>Main hospital for the region: 10 beds, 3-4 emergency beds. Some community & allied health services.<br>Break O'Day community health centre.<br>Airstrip for light aircraft, dirt strip.<br>**St Marys:** One permanent GP.<br>Hospital has 4 beds, 24 hour staffing, GP clinics, visiting allied and community health services. |
| **Mallacoota VIC** | Paramedic Community Support Co-ordinator. Sole worker.<br>10 Ambulance Community Officers (volunteers) on call 24/7.<br>99 emergency or acute cases pa. | Two GPs in private practice; on-call.<br>No hospital. Closest hospital is 115km to Orbost Regional Health. |
| **Omeo VIC** | Paramedic Community Support Co-ordinator. Sole worker.<br>12 Ambulance Community Officers (volunteers) on-call 24/7.<br>Major work is transport to Bairnsdale (125km).<br>96 emergency and acute cases pa. | One GP in private practice, visits hospital 2-3 times per week.<br>Omeo District Hospital has 4 acute beds; medical and aged care; limited after hours emergency care. |

Sources:
1. SAAS Annual Report 2004-05
*http://www.saambulance.com.au/publicweb/pdf/SAAS%20Annual%20Report%202004-05.pdf* accessed 23 March 2006

## 2.2 The Case Studies

This project used case studies to examine the rural paramedic role in New South Wales, South Australia, Tasmania and Victoria. Over a similar timeframe, the Australian Government Productivity Commission researched and reported on Australia's Health Workforce including the special issues and problems that are characteristic of rural and remote Australia. While most of the comments from interviewees in these small communities supported the concept of expanding the scope of practice for rural paramedics, some paramedics in larger centres expressed scepticism about the value of research into rural practice and felt that there was no need to change. It is clear from the evidence collected that this resistance to change is uninformed and a barrier to innovation.

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 is the lack of any significant change in the roles and interactions of the paramedics in these small communities. It was clear that the paramedics and other health professionals are keen 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, based on research evidence, rather than uncritically continuing with traditional approaches.

The South Australian case study demonstrates the value of generating local solutions to local health workforce problems. This program gave the South Australian Ambulance Service a means to demonstrate their willingness and capacity to work more closely with the health system through the establishment of 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 explores how this role has evolved into an extended scope of practice model and canvasses suggestions about future enhancements. The East Coast Paramedic is located in Scamander and services the north-eastern region of Tasmania. In this setting 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 volunteers and the paramedic. The paramedics have had the flexibility to extend their roles and adapt to the communities in which they practice.

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 that improved access to health care, provided more support to the volunteers and improved integration with other health services. As the emergency workload was too low to support a full time paramedic presence the concept of the *Paramedic Community Support Coordinator* was developed and introduced. This innovative model was designed to integrate a paramedic with an expanded scope of practice into the community and to support volunteers. 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.

## *2.3 The Case for Change (New South Wales)*

### Introduction

The Ambulance Service of New South Wales (ASNSW) is one of the three largest ambulance services in the world with 3,394 salaried staff, 241 response locations and close to 1,000 operational vehicles (Productivity Commission, 2006). Unlike most other Australian ambulance services, a distinctive feature of ASNSW is the comparatively small number of volunteer or retained staff (118), even in very remote areas. Two paramedics made the following observations about their perception of the volunteer staff over the border in Victoria.

> *Honorary people do a great job, but the ones that you get really in the future have got to be of the standard of the Victorians and they have to be paid.*
>
> *They* [RAV] *have some quality honorary Ambulance Officers, when I say quality you wouldn't know the difference between the honorary officers and the full time ones there.*

ASNSW recognises that its traditional structure and model of delivering ambulance services to small rural communities almost certainly needs to be redesigned to reflect changing demand patterns and health resources. In many small rural communities across NSW integrated flexible service delivery models, such as multi-purpose health services, are already well established. (NSW Health, 2000; Audit Office NSW, 2001) The suggestion that ambulance services should also become more integrated with these and other health providers is unlikely to be contested in principle (Productivity Commission, 2005c).

This case study, set in south-western NSW highlights the need to develop more flexible and integrated services, based on research evidence, rather than uncritically continuing with traditional approaches. Coleambally and Barham were selected as typical rural communities in remote NSW. These towns are also part of a larger group of communities that are associated with an earlier project (The Murray Project) undertaken by the ASNSW that was part of a strategic initiative to identify opportunities to reform and modernise the delivery of ambulance services in regional NSW following an independent review in 2001-2002 of operational services in regional NSW (ASNSW, 2002; ASNSW, 2004).

Coleambally is located about 70kms due south of Griffith and about 70kms to the north of Jerilderie. There are three full time ambulance officers working eight-hour rostered day shifts followed by on-call arrangements for the remaining 16 hours. Coleambally does not have a hospital but is serviced by one General Practitioner (GP) three days in each week and one Community Nurse one day in each week. The State Emergency Service (SES) has a presence in Coleambally.

Barham is located on the north-west border of the state with Victoria and about 100kms to south west of Deniliquin in NSW. There are four full time ambulance officers working eight-hour day shifts followed by on-call. Barham has a district hospital with accident and emergency facilities. Three GPs provide locum services to the hospital on a daily basis and one Community Nurse is available for five days in each week.

Neither Barham nor Coleambally currently have an Honorary Ambulance Officer presence. The explanation for this is that historically ASNSW has only operated two distinct models of rural ambulance service delivery, either volunteer or full-time rather having the option of a mixed model as operates in other States. For example in Victoria, their Ambulance Community Officers and paramedics can pair up to form a two-officer crew.

## Case for innovation

The overwhelming characteristic of the NSW case study is the lack of any significant change in the roles and interactions of the paramedics in these small communities and how keen the paramedics themselves and other health professionals are to see some innovation that will help the local health system operate more effectively.

In common with many rural and remote parts of Australia, the issues driving reform of rural health services are brought to light through the number of unnecessary presentations to emergency departments of hospitals, the dearth of mental health facilities and services, limited numbers of general practitioners and community nurses, and the changing role of rural hospitals that increasingly offer little more than aged services. For example, paramedics attend calls where the patient might only have minor injuries that probably does not justify the trip to a hospital and would be better followed up with the local GP at a more convenient time. Current practice is described by a number of the study participants.

> *You pick up a patient, do some initial first aid care, and then drop them off at the hospital.*

> *Diabetics are another thing. You know, they might have a hypo, and by the time the Officers have basically managed them, they're fixed, but then they still come here* [to the hospital].

> *Quite often you're got elderly people, you take them out of the environment and then bring them into hospital, and …we can't discharge them in the middle of the night because you don't have the means to get them home and its not appropriate.*

Currently all patients excepting those refusing transport are transported to hospital. Allowing paramedics to treat and discharge patients when appropriate, as suggested in the multiple-option decision point (MODP) model, would decrease the number of presentations to hospital and decrease the number of return transports, thus freeing up both the hospital and ambulance resources (Neely et al., 1997; Schmidt et al., 2000). This is a particular problem in towns without hospitals where ambulances travel longer distances of 50-100 kilometres to present with patients they are aware will not be admitted.

These small rural towns do not have access to mental health facilities. Clients needing mental health treatment have to be transported long distances. A nurse and police officer must accompany non-voluntary clients who have been sedated. This action depletes finite resources within the town when better local treatment may alleviate the need for long-distance transport. Nursing respondents made the following observations.

> *I think there is room to pick up more skills with mental health.*

> *At the moment I think there are real gaps there and we nearly always have issues when we get to the stage where we have involuntary patients requiring transfer.*

Throughout rural Australia many small towns find the attraction and retention of general practitioners a major challenge. The recent Productivity Commission Report on Australia's Health Workforce recognised this shortage of GPs in rural areas (Productivity Commission, 2005c). Little appears to be known about how these health workforce issues impact on paramedics and ambulance services, nor the potential for GPs and paramedics to work more closely together. Unfortunately, efforts to interview GPs in the case study were unsuccessful despite considerable effort being made to do so. However, other interviewees did comment on the issues.



*… being able to either attract and also retain people out here, such as the local doctor, has been very difficult …*

*I think sometimes maybe the GP doesn't take advantage of what they* [paramedics] *could do.*

*… if the ambulance officers were trained up to do more it would take the pressure off the doctor.*

*… providing services especially when the doctor is not available would be good, and after hours would be good to.*

Similar issues were raised in relation to the limited availability of the community nurse in one of the towns where there are no nursing services after hours or on weekends. In this case there was evidence that the paramedics had helped the community nurse with public health activities on an informal basis.

*They have become fairly involved with me as far as community education …They helped me with immunisation clinics.*

*The services are getting cut back all the time. So the more that we can bring in, even through other means, such as the ambulance service, will be fantastic.*

One local paramedic commented that if the community nurses were removed, people would then look towards the ambulance service for general health advice and assistance with their well-being.

The lack of a local hospital in Coleambally requires residents take a round trip of 140 kilometres to the nearest hospital for minor injury treatment. This has an impact on members of the community and local ambulance resources.

*The other thing is that if we get an injury that needs a couple of stitches we have to travel all the way to hospital about one hour twenty from here then you have to get back.*

*On the speed limit it is 50 minutes to get there. We have a lot of people that refuse transport for the simple fact that it is so far away and then they are concerned about how they are going to get back home.*

## Moving forward

It is unlikely that conventional models of pre-hospital service delivery will be able to meet the future emergency and health demands in small rural communities in an appropriate manner. This means that ASNSW will need to address several challenges if it is to adapt to the changing environment and continue to provide effective and appropriate services to the community. Previous rural initiatives in ASNSW as far back as the Sinclair Report (2000) on rural health services in NSW and various external (Audit Office, 2001) and internal reviews of ASNSW (2002, 2004) made recommendations for greater workforce flexibility, greater sharing of resources, and a closer relationship with the community. For instance one report suggested that the following issues be investigated for their feasibility:

- the use of honorary (volunteer) ambulance officers:
- special needs of communities with low workload for ambulance services; and
- a more involved partnership with the health system.

Other suggestions included:

- implementing a '2-4-6' staffing establishment roster model;
- developing partnerships and interactions with NSW Health;
- developing partnerships with communities; and
- introducing hub and spoke operations.

In the case study area, ASNSW is currently developing integrated flexible service delivery models that are responsive to the needs of communities in collaboration with the Greater Southern Area Health Service (GSAHS). These projects are to be piloted during 2006. Barham and Coleambally are two of the four pilot sites selected for this initiative designed to enhance health services in remote and rural areas. This work has been based on the key principle that any new role for the ambulance service is not a substitute for other health services and that under no circumstances would the Service's primary role be compromised. This is unlikely to be an issue in locations where average caseload is one case per day or less and paramedics report that they are bored and looking to broaden their role beyond protocols.

> *You come out to a place like here and you don't use your skills a lot. I find that very hard because, like I said before, you feel that you go backwards in the job.*

The ambulance service has traditionally been seen as only a provider of emergency care and transport. While it is recognised that this will remain its core role and should be further enhanced where possible, paramedics are increasingly being recognised as a health care resource that can make a significant contribution to the challenges that are now apparent in some areas lacking basic health resources. ASNSW has initiated several projects to enhance emergency care and has identified additional opportunities that could contribute to the provision of appropriate care. These relate to:

- making the ambulance service the first point of contact for unscheduled care;
- providing out-of-hospital services; and
- supporting the primary health care system.



In order to achieve this, ASNSW has made a significant investment in information technology and re-designed the role and career structure of paramedics throughout the State. Investment has been made in call centre technology through its operations centre reforms, upgrades to the ambulance computer-aided dispatch system, and call prioritisation. The Health Advisory Centre (HAC) pilot project offers some "000" callers the options of receiving expert telephone advice from a nurse or paramedic.

Significant opportunities exist for improving direct access to care for patients whose needs are perceived as urgent but following assessment are determined as non-urgent. The Service has seen an increase in the number of ambulance attendances that do not result in transport to hospital and is developing risk management strategies to deal with this and related issues. These strategies will include making better use of the existing workforce through the development of new streams of paramedics. The role of paramedics in the future might extend to making on-scene decisions relating to non-conveyance or referrals. Clinical knowledge and professional orientation will need to be strengthened and supported to enable authorised non-conveyance and referral decisions at the scene of an emergency medical situation.

The current workforce is capable of expanding its role to meet specific community needs that are not necessarily acute or emergency related. In recognition of this, ASNSW has commenced a program of advancing skills for paramedics throughout the State. They are currently increasing the range of skills and interventions available to paramedics in managing mental health emergencies. A new two-tier clinical model is currently being introduced that will sustain enhanced and diverse service delivery.

## Key reflections

Ambulance services are likely to be retained in rural and remote communities long after other health services have passed their level of viability. In a number of locations changes to general practitioner (GP) presence and the level of services available at local hospitals have already shifted focus to the ambulance service as a major source of primary care and advice. Casualty rooms already exist in many ambulance stations and new paramedic roles may present an opportunity to provide small communities with ambulance clinics akin to the Minor Injury Services operating in the United Kingdom, where primary assessments could be undertaken prior to immediate treatment and advice or referral to GPs or hospital emergency departments.

Ambulance services are increasingly being recognised as a health care resource that can make a significant contribution to the challenges that are now apparent in the shifting environment. It is anticipated that the improvements identified above will provide opportunities for communities to become involved in their local health care by assisting ambulance response times to life-threatening emergencies and by making better use of public funding. The paramedics interviewed recognised the calls for a widening of their roles.

> *Paramedics out here more often than not are the first point of call for the community to who come to us for all sorts of problems not only medical, or typically medically related types of problems, and our role here, being the emergency role, is good but I think that we can do much more out here, and the community by default, expects us to do a lot more.*
>
> *Out here in particular, we provide care in general, not only on an emergency level, but there is quite a wider role in that we can be called upon by the community not for emergency types of cases.*

There have been attempts to implement preferred changes through the previous Murray Project initiatives such as piloting first responder schemes and expanding the Honorary Ambulance Officer system. However, the pilots were made redundant through industrial risk and an apparent lack of interest in communities. It seems that ASNSW would benefit from examining the strategies used in other States to implement and support a robust volunteer ambulance officer scheme through consultation with industrial associations and local communities. Rural Ambulance Victoria, for instance, have been very successful in increasing volunteer numbers and enhancing community involvement despite a history of vigorous resistance from unions. They have increased their volunteer numbers from 387 in 2002-03 to 819 in 2004-05 (Productivity Commission, 2006).

ASNSW appears to have had few formal mechanisms, such as auxiliaries or the widespread utilisation of volunteer ambulance officers to provide local linkages with communities. In the case study there was no evidence of formal encouragement for paramedics to actively engage with the community or indeed their local health services and providers. The inability of the local paramedics to arrange any interviews with members of the public or local GPs was a strong indicator that these links do not exist in these particular locations.

This case study endorses the efforts of ASNSW to enhance the paramedics role and that will subsequently place the Service at the forefront of efforts to maintain emergency medical capability and to improve access to primary health care services in those areas that face difficulties maintaining medical, nursing and hospital services.



## *2.4 Hospital-based role (South Australia)*

### Introduction

This case study is particularly relevant for those rural and remote locations where health workforce shortages are most acute, particularly in relation to the attraction and retention of general practitioners. The South Australian program has been established in a number of small rural towns - predominately it operates in Bordertown located near the Victorian border with limited application at Pinnaroo and two other rural hospitals. The strengths of the arrangements that the South Australian Ambulance Service (SAAS) have put into place are the strong emphasis on regulatory and funding issues.

The case study demonstrates the willingness of both the initiating paramedic and other local health providers to generate local solutions to local health workforce problems. SAAS and the South Australian Department of Health have responded in a flexible manner through the adoption and implementation of the program.

The two precipitating factors driving the innovation were the growing skills shortages locally and the arrival of a well-qualified paramedic in the area as a Regional Team Leader with responsibility for improving volunteer support and training.

Local GPs were experiencing difficulty getting time off without leaving the local population without medical cover. In common with many GPs, they were reluctant to be on-call on a 24-hour basis. In Pinnaroo, for example, one GP had serviced the town for 40 years and had provided all emergency on call services – 'basically he was on call 24 hours a day 7 days a week.' This GP had left the town in the late 1990s and problems with medical coverage began to occur. With reduced GP availability in the area, the responsibility for emergency medical care shifted to hospital Chief Executive Officers and Directors of Nursing (DON). They too began to feel stressed…

> We have been without a constant GP from November last year until July … it is nearly 8 months and we had locums coming in and out … We did have periods of up to 3 weeks where we did not have anybody to cover at all…and that puts a huge burden on the staff here. I was on call all the time when we did not have a GP because I have an Intensive Care background, and an A&E background. So it was that I just couldn't ever really settle.

In late 2003 the DON at Bordertown realised that all local doctors would be absent for a few days leaving the hospital without emergency medical cover. She took the initiative and asked SAAS to assist in the hospital emergency department when the doctors were not available.

The second factor was the arrival in the town of the Regional Team Leader who quickly established positive relationships with health providers and community members. Until then the Bordertown emergency medical team relied on 36 Volunteer Ambulance Officers, three or four on-call GPs, and hospital nursing staff.

As the paramedic resided in the town, he was in a position to develop an expanded scope of practice role through his ability to effectively integrate into the community, building strong local relationships and respect for his skills. All the Bordertown interviewees reported a high regard for this paramedic's skills and abilities. The paramedic had also begun to work within the hospital. This included assisting the anaesthetist GP with cannulation in the operating theatre as there were no nurses within the hospital with these skills. The local DON recognised these and other skills and suggested that they be further harnessed in the absence of GPs.

*The idea started when I was visiting my son in hospital and the CEO/DON popped her head in the door and made the comment; "… we have no GPs in town this weekend, are you able to cover?" I initially said yes, and then it occurred to me the magnitude of what I just agreed to.*

With the locally-based impetus for innovation, strong local community relationships and mutual respect already established, the idea and concept then needed to be taken through the SAAS managerial system and negotiated with the South Australian Department of Health.

## Hospital-based role

The program has established a process where rural hospitals in South Australia can enter into a Memorandum of Understanding (MOU) with SAAS to contract for one Intensive Care Paramedic to be located within emergency departments when a doctor is unavailable. The Intensive Care Paramedics (ICP) work within their normal scope of practice under the authority of SAAS and consult with the Ambulance Service Medical Officer (ASMO) when extended treatment or procedures are indicated. The program relies on paramedic and ASMO availability, and hospital willingness and desire to address GP unavailability in this manner.

With the recent integration of the ambulance service into the health portfolio there is an increasing organisational identification with the wider health system rather than being seen as merely an emergency transport service. This program gave SAAS a platform to demonstrate their willingness and capacity to work more closely with the Department of Health and the broader health system. The formal agreements also cemented a new extended role for the ASMO as a Visiting Medical Officer in those hospitals where he supervises both paramedics and nurses. This new relationship with hospitals and the Department of Health formalised previous 'boundary pushing' exercises.

A significant feature of the program is that the paramedic role changes from the more traditional 'scoop and run' or 'shifting the problem' to one that requires more assessment, stabilisation and treatment of the patient.

*It wasn't ideal for patient outcomes to transfer somebody who is obviously infarcting and is at high risk of an arrhythmia in the back of an ambulance when they could be in a … stabilised environment here [in the hospital].*

Being able to treat the patient, in this case within the structured and ordered hospital setting, also overcomes a consistently reported issue for the rural and remote paramedics. They can see that just a simple treatment is required, but it is outside their normal scope of practice.

*It's hard when you see that a patient had to drive 50 km for treatment of a minor laceration that needed stitching.*

Paramedic interviewees consistently demonstrated enthusiastic willingness and confidence in extending their clinical treatment and team-work roles. They claimed broad rural and hospital experience, together with specific understandings about how GPs, nurses and the hospital system work.

*I am well aware of local GP skills and anaesthetic skills and would not have hesitated to implement them if necessary.*



## Planning and implementation

The strength of this program is the strong documentation and regulation of the program. SAAS ensured that all insurances, contracts for service agreements, protocols and medical supervision were discussed, understood, documented and formally agreed, thus ensuring that legislative requirements were met. The ASMO has hospital visiting rights at each of the hospitals involved and has visited at least one hospital and trained nursing staff in emergency procedures in preparation for the paramedic's new role within the hospital.

Hospital CEOs and DONs provided hospital staff with guidelines and explained the 'systems and processes' to be used when the paramedic was on site. Staff at Pinaroo Hospital informed community members through the media and by letter drop of the new role for the paramedics.

One unique feature of this program is the provision that the hospitals pay SAAS for the paramedic's services, enabling SAAS to recoup some costs in return for higher level of emergency medical cover in the hospital. SAAS supplies a visiting paramedic (an ICP) from Adelaide to staff the program as the only local paid ambulance officer in the region is the Regional Team Leader. Normal ambulance service call-out procedures are used with hospital staff contacting the SAAS communications centre to request that the paramedic attend the hospital. The MOU stipulates that 'emergency response calls will take precedence over the agreement with the … hospital' (SAAS, 2003). There were no examples where this had caused problems, but it is possible that a clash of responsibilities could arise.

Paramedics acknowledged that some hospital staff 'were initially cautious and cool, yet still encouraging' and then over time the relationship 'only improved and the respect each way just became fantastic.' In building familiarity on both sides, paramedics needed to demonstrate both confidence and high skill levels.

> *I think they lacked the confidence in me because I was not a medical officer. However, a cool, quietly confident but firm approach saw them respond to my direction and from this they could see that I did in fact have the medical acumen to make informed decisions about the patient's care.*

An important feature is that SAAS is able to supply skilled paramedic staff operating under existing SAAS protocols and procedures to provide a strong base for an expanded scope of practice under the supervision of the ASMO. If the paramedic was faced with a situation that required treatment or investigation beyond the paramedic's normal scope of practice the SAAS Medical Officer (ASMO) would be consulted. This makes the program more cost-effective than those that require additional education and training.

One feature of the program at Pinnaroo is the paramedic's ability to use hospital-based telemedicine facilities to contact the ASMO. While ordering x-rays and medications are mentioned, it is unclear what the limits may be in these instances. At all stages, the patient is informed, and procedures are noted in patient files and audited by the ASMO.

## Outcomes

There is no evidence that this pilot program has been evaluated, although an internal presentation has been made within SAAS to area managers. Therefore, this case study is the first external examination of the program.

The MOU and protocols developed at Bordertown in late 2003 have been used in other sites. However, the program has only been activated on a spasmodic basis. It has been used at Bordertown on about six occasions, and once at Pinnaroo in December 2004 when the hospital requested SAAS back-up over the Christmas-New Year period. Protocols were used once at Gumeracha Hospital when the GP could not be contacted. Keith Hospital has signed an MOU, but there is no evidence that the program has been implemented there. All interviewees reported that patients were satisfied and that no complaints were received.

Hospital staff, SAAS managers and paramedics agreed that the closer working relationships brought benefits to all stakeholders. Most were positive about sharing knowledge, developing teams, and coming to new understandings about professional roles and boundaries. All recognised that limited resources are available to rural communities, and expressed their willingness to solve or alleviate the skill shortage problem. They all said that, valuable education and training for nursing staff was provided by both the ASMO and paramedics when in the hospitals.

The paramedics interviewed consistently described the program as successful and enjoyable and they demonstrated a high level of commitment to it. They recognised that hospital staff, volunteers and GPs had never worked with a paramedic in this way before, and they displayed sensitivity to the impact of the new role on their co-workers. Paramedics acknowledged that their new role could be threatening to nurses in particular and expressed a desire to 'reinforce [that] we are not trying to take over the hospital.' Another thought that the short duration of the program affected the relationship with nurses and that maybe a longer timeframe would have enabled RNs to better understand the paramedics role and realise that they were no threat.

The process of establishing this program has developed new relationships between SAAS and the hospitals, the GPs, the Department of Health and also within SAAS. Hospital and ambulance staff noted that the program brought 'improved direct patient care' and hospital staff were made feel more secure.

> *It was good in terms of the fact if we had a major trauma, or major disaster we had somebody here who had the skills and was able to help us, and assist us if we needed … we would have needed assistance without a GP.*

Paramedics are now working within the hospital setting as part of the health care team to provide an improved local emergency medical response and assisting in responses to local health workplace supply problems. Hospital staff, GPs and volunteers reported high confidence in the paramedics' skills that underlie the program. Their collective comments demonstrate a shared understanding amongst members of the health care team of each others skill sets. There obviously needs to be some positive awareness of the paramedics' specialist emergency skills amongst other team members for this type of innovation to work effectively. However, SAAS managerial and field staff recognise that a weakness of the program is that it currently relies ultimately on one person.

> *The ASMO is the person with the treating privileges, and the one whom the 'buck stops with'.*



> [The program] *needs to be more substantial …if there were a breakdown in communication* [with the ASMO] *for whatever reason, it would potentially cause some difficulties due to the nature of the MOU framework.*

Two general practitioners demonstrated certain resistance to the program. One GP clearly stated his support for the status quo.

> *I do not believe in them expanding their role into other things, but am happy to have them assist when needed. Paramedics should not step out of their boundaries and into the role of medicine otherwise doctors will stop working except between the hours of 9 to 5.*

This GP saw no reason why the paramedics' role should expand into primary health care.

> *If a patient cannot get to a GP in a taxi then they are obviously sick enough to be in hospital. Sending a paramedic is not going to help.*

From a critical perspective, the development of this and other new models opens up the danger that paramedics will allow themselves to evolve into a 'go-for' role, defined as a person engaged in menial, supportive or immediate need tasks. In Canada, Rothe (2002) has reported that while some EMS workers are prepared to undertake functions like 'moving patients', 'helping clean up' or 'helping with patient admissions' as informal activities, others resist what they see as hospital work. The point is that these tasks, although useful, are not really extending the scope of practice for the paramedics. Health and ambulance authorities can hardly expect the profession or ambulance unions to embrace an expansion of 'menial' tasks when the profession aspires to more substantive professional roles.

## Prospects for the future

One Director of Nursing suggested that the extended role for paramedics is in training, re-accreditation and scenario trials for nursing staff. Nurses used paramedics for advice and a second opinion when they were working within the hospital. Interdisciplinary joint training sessions also built teamwork for local preparedness. One SAAS Manager also noted that nurses are 'obviously looking for any training and up-skilling' and that this has increased the liaison between the two organisations.

While GP unavailability has been a driving force behind this program, the relationship with GPs could also influence the program's future. One nurse summarised the strong influence of GP shortages and on-call expectations.

> *The program won't continue if GPs are available, but it is not fair for GPs to be on call 24 hours a day 7 days a week.*

One GP, while acknowledging that there were no problems with the program clearly sees no future for it, and is resistant to the whole concept

> *They did a good job we had no problems. … [but, having to use paramedics in this way] … reflects the poor moral commitment of junior doctors to go into the country. We should not have to rely on paramedics in this way… We had no option but to use them… I am confident with paramedics…paramedics have good skills,…but [the program] … shouldn't have to continue.*

Paramedics and SAAS managers meanwhile saw the potential for the model to extend outside the hospital, to '… establish rural clinics when doctors are not available (eg Port MacDonnell)'. One paramedic also suggested extended practice within the community.

> *Particularly at quiet stations staff could perhaps assist with visitations to local residences for nursing type assistance – i.e. wound care, medications, general medical assistance.*

All paramedics wanted to extend their clinical practice and were keen to undertake more training. One paramedic made suggestions on additional skills.

> *Suturing, RSI in extremis, x-ray, opthamology, dermatology; and primary health care skills, and a module (maybe grad dip) in hospital emergency care for ICPs, so they can back-up into this system to alleviate pressure on GPs.*

By extending the model to all hospitals, paramedics saw the potential for working this way in all rural and remote emergency departments. This could be achieved through having a 'dedicated relieving pool of ICPs' and they could supply 'locum services to both country and city.'

SAAS staff demonstrated a strong commitment to developing a 'greater presence in rural areas' for the ambulance service and saw this model as a means of providing a vehicle for achieving this. One SAAS manager supported this concept and suggested '… an MOU with all hospitals to eliminate the confusion about where we commence and stop patient care in the hospitals'. To this end, the ASMO has proposed to the South Australian Department of Health that he be granted Visiting Medical Officer rights to all public hospitals. He would also like to strengthen the program through the employment of Regional Medical Officers with emergency medicine expertise and provide more than one point of contact for approval of procedures and advice.

Paramedics and SAAS staff both saw the ideal as the development of roles such as paramedic practitioners or physician assistants in other countries. One SAAS Manager was especially optimistic.

> *This is the future. This gives our officers the chance to expand their own careers.*



## 2.5 East Coast Cluster (Tasmania)

*A lot of what we have to do out here, working with the community, sorting out their little medical issues, they're not really our problems at all. But they're issues of not being able to get to a chemist, not being able to get to a doctor, not having transport to get from point A to point B. Trying to sort out some of those issues, and being able to do so that you have some sort of responsibility… in times of doctor shortages, having admission rights, those sort of things. Being able to pop someone in overnight, when you know there is nothing particularly wrong, not a huge amount, but they really need to be cared for.*

### Introduction

This case study examines the role of Tasmania's East Coast Paramedic (ECP), how this role has evolved into an extended scope of practice model, and suggests possible future enhancements. The ECP position was partially modelled on a similar program on the West Coast of Tasmania, but is more extensive in both breadth and depth of practice. This case study was particularly rich and rewarding as a wide variety of sources were accessed including 17 interviews and supporting documentation.

The case study is set on the rugged and diverse North-East Coast of Tasmania. St Helens is the main population centre and St Marys lies about ½ hour to its south-west. These coastal town populations can double in size during summer months - the popular tourist location of Coles Bay attracts an extra four to five thousand people each day. The Tasmanian Ambulance Service (TAS) supplies all ambulance services through a mixed volunteer and paid workforce.

Following hospital closures and reconfigurations, difficulties with the Red Cross ambulance service at St Marys, and medical workforce pressures the Tasmanian Ambulance Service established a paramedic service in the Break O' Day municipality (Tasmanian Ambulance Service Operations, October 1997). The best location for the new ECP service was determined after local lobbying and representations (Reid, G.D., Bennett, M., personal communication, 1998).

The Tasmanian Ambulance Service chose to locate the ECP in Scamander, a small town some 10 minutes south of St Helens, because coverage to the widest possible area could be optimised (McKay, P., Hanson, S., personal communication, 1998). It was agreed that the ECPs would use standard operational procedures, drawing upon the procedures previously used on the West Coast at Zeehan (Brumby & Byrne, February 1991). The position was advertised and duties commenced mid-1998. One paramedic commented that:

*They've been very lucky with the people they've had out here, particularly with* [name deleted]*, in that she's gone one step further and really involved herself at the local planning level.*

## The East Coast Paramedic

The East Coast Paramedic position was first mentioned in a branch annual report in 1998 (Field, 1998). The ECP operates as an autonomous practitioner operating with back-up from volunteers or alternately in support of volunteer units. This feature requires strong teamwork and clear communication and understanding between the volunteers and the paramedic. Fortunately, the permanent and relieving ECPs have had the flexibility to extend their roles and adapt to the communities in which they practice.

Anecdotal evidence suggests that the ECP was initially encouraged to assist at the hospital in the absence of a general practitioner. The paramedic was reportably given admission and prescribing rights and it was also intended that the paramedic perform other skills such as suturing. While written records of this innovation seem not to exist, this appears to have established the basis for the role extension as a means of finding a solution to a local health workforce problem.

The relative isolation from the operational headquarters in Launceston, the new and varying role expectations, and high profile community discussion about the new position provided the incumbent paramedics with the opportunity to influence the operation and development of the ECP role. While this meant that the position was set up 'on the run' in some respects, it allowed the paramedic to develop operational procedures to suit the region. As a result they worked with community members and health providers to make the ECP the public face of the Tasmanian Ambulance Service in the area (Severin, 1998; Spicer, 1999).

Initially the draft position description included responsibilities to liaise and assist with local health care providers (public, private and voluntary), emergency services and the community. These broader roles were later deleted and the formal role reverted to the standard Station Officer position description (Tasmanian Ambulance Service Operations, 1997). Hence, it has been the interviews conducted for this research which supplies evidence of the paramedics' extended role, rather than ambulance service documents. One paramedic explains the disjunction and the responsibility felt:

> *It's not in the job description. The job description is to provide that oversight, to provide pre-hospital care, the backup, the crews, to form the crews as required. They* [paramedics] *are not specifically tasked with physically looking after the station…or recruiting volunteers or managing the volunteers as such, but they are responsible if anything goes wrong and for sorting out any problems.*

### What do the paramedics do?

In addition to baseline clinical and emergency response duties, interviewees reported that the East Coast Paramedics were:

- training, managing and recruiting volunteers;
- engaging with the community by giving first aid education, and developing health and emergency services;
- assisting staff in the hospital setting with triage and cannulation;
- treating patients in the home and community; and
- training hospital staff in emergency procedures.



Responding to emergency clinical cases remains a key function of the ECP. A feature of the role is the need for the ECP in such an isolated area to be familiar with air, land and sea medical transport systems. They have found that they can be expected to operate 'like a mobile doctor service' and have reported that patients would telephone or drop in at their place of residence for advice or treatment.

> *The whole neighbourhood will drop in just for a dressing change* [and] *even with the critical patients this happens. One guy had full on anaphylaxis, others have had prangs in the middle of the night and just drop in rather than going to hospital.*

Paramedics have become more able to resolve patients' problems on scene, without having to transport. This was facilitated with support from the after hours doctor assistance service, and sometimes through the local doctors' surgery. A volunteer observed that 'previously everyone had to go to hospital but now the paramedic can decide whether a person needs to go to hospital' and cited both diabetic and road accident examples.

Paramedics work alongside, lead and train local volunteer teams:

> *Yes it is different … on the East Coast it is the paramedic who supports the volunteers and because there are not enough volunteers, you end up becoming part of the crew.*

Many recognised there is a 'huge gap' in skills between the advanced care paramedic and the volunteers, and a community member pointed out that 'if the paramedics weren't here we would have no volunteer ambulance.'

Paramedics reported that assisting with general nursing duties in the hospital 'is an unspoken thing' and that hospitals increasingly rely on ambulance assistance due to GP unavailability. They assist the nurses until the doctor comes in, help out when nursing staff are busy with multiple patients, and do triage, cannulation and administer drugs such as anti-emetics when a doctor is not present. GPs also noted the assistance given by the paramedics to the hospital system - 'they don't just drop the patient off and run.'

All interviewees recognised that the paramedics play a significant role in the community, ranging from first aid sessions with Girl Guides and school groups to being members of the road safety task force and other local committees, through to emergency and health planning, and arranging mock disasters for all emergency services. One health professional pointed out that they have a high community profile with the uniform and vehicle and are well known in the community. Most respondents mentioned the very significant developmental role one paramedic played in helping set up the Break 'O Day Regional Health Association. One paramedic conceded that she '… didn't appreciate how much community involvement there would be. You have to be careful not to burn out, you can only do so much, and you can make a rod for your own back.'

## Program support and outcomes

One paramedic suggested that the emergency ambulance workload in the region had increased because of the extra skills, arguing that 'previously the community may have been reluctant to call an ambulance because they knew they were just getting volunteers'. This view is not validated from the available TAS statistics.

A Police officer described the situation in more abstract terms, noting the large region that is covered, and the symbiotic relationship between volunteers and the paramedic.

> *The population is about six or seven thousand people, and you've got one paramedic on. It goes from three thousand to nine thousand around Christmas just in the St Helens area. If you have a job at Coles Bay, and another at Weldborough, which is two, two and a half hours away… I don't think they could do it without the volunteers. And I don't think the volunteers could do it without support.*

The Tasmanian Ambulance Service recognises the importance of the ECP role and has accepted the responsibility to ensure that an Intensive Care Paramedic whether permanent or relief is always rostered in the area. This contrasts with other Tasmanian Branch stations which may be staffed with Advanced Life Support (ALS) paramedics rather than Intensive Care Paramedics.

**Continuing Education**

The level of training support has varied - paramedics have been able to attend compulsory intubation re-accreditation, however regular one-on-one training has been more difficult to arrange due to operational requirements and the remoteness of the location. There has been no specific training provided to the ECP paramedics and interviewees felt that it has been fortunate that paramedics have brought special skills which suited the regional communities. Currently, the ECPs develop their own skills through self-education.

Like other branch stations, clinical supervision is conducted remotely with regular review of patient care records. The existing workload of Clinical Support Officers at the regional headquarters and the relative isolation means that they rarely visit the East Coast. An example of this being a problem occurred when a 12-lead ECG was placed with the ECP, but was not followed up with timely training and as a result the machine was returned to TAS headquarters, even though one of the doctors interviewed thought that paramedics could well be administering pre-hospital thrombolytics in the future.

**Local Relationships**

An early branch station annual report indicated there had initially been 'atrocious' rapport between volunteers and hospital staff. This problem was rapidly solved with paramedics now called on to assist in the hospital during busy periods and to run short medical courses for hospital staff.

The paramedic worked very hard with the volunteers to sort out professional boundary and procedural issues. Some volunteers and some paramedics needed time to settle into the new arrangements. Volunteers said the paramedics helped advance and develop volunteer skills either through training, modelling or joint team-work

> *Now it is better because our skills have become more advanced by being able to help out more.*

As part of the implementation process, the ECPs had to cope with two distinct groups of volunteers: those at St Helens who had had more experience with paramedics and had trained under the Tasmanian Ambulance Service; and those at St Marys who had previously worked under the banner of the Red Cross. Once the settling in period had been negotiated both groups gained considerable value from the arrival of the ECP. Volunteer confidence and skills increased due to paramedic presence and where previously they just transported patients there was now more involvement in patient care.

> *There is an overlap mainly because of the low case load. Certain jobs don't need advanced life support at all - for example a sprained ankle or simple burn. It may be uncomplicated and fall well within the volunteer capability but some paramedics will take over.*

Trust has been established between doctors, hospital staff and ambulance personnel. Doctors' comments indicate a high level of respect for paramedics and support for their further training and independent practice. With some patients now being assessed and treated at home by paramedics, there has also been some easing of the work pressures on GPs and local hospitals. The paramedics' skills have also advanced the medical care in the area through their informal assistance within the hospital environment. Paramedics themselves would like to see their skills base expanded to be able to more effectively care for more critically ill patients. Like many paramedics, this emergency care aspect is probably higher on their agenda than measures such as caring for people with chronic conditions within their own homes.

All interviewees noted that paramedics offered successful community education programs and had made a long-lasting impact on the community through establishing a community health centre. All agreed that without the paramedics a big gap would be felt. Doctors said they would feel extra pressures in having to attend cases themselves, or have patients present who would normally be handled by the paramedic. Many recognised that a volunteer-only service would find it difficult to manage emergencies.

One GP acknowledged that the paramedic worked well with other health professionals and 'we help each other out'. These networks are maintained through paramedics interacting socially in the community as well as more formal community-based committees. Permanent paramedics have requested that relief officers be stationed for longer periods to maintain and develop this community engagement.

One paramedic described the work as 'the best job in the entire world' and this enthusiasm for their work is reported amongst both other permanent and relieving staff. The appointed paramedics were largely responsible for how this program was established and continues to run. A successful culture and model have been established where the relief paramedics also train volunteers and assist with community projects.

Two GPs expressed favourable sentiments for the paramedics themselves and their skills, what they brought to the community and their contribution to the local health system. Close working relationships have built up over the years and the doctors were most confident in the paramedics' skills and looked favourably toward an increased scope of practice for the paramedics. Their working relationship demonstrates a potential model for future doctor- paramedic professional relationships.

One doctor explained that an extended scope of practice occurs when a doctor is willing to supply scripts over the phone, based on the paramedic's description of an isolated patient's condition. Another said that between home and hospital triage there is 'not really a big difference', and hence the paramedic is able help patients in the home, as long as there were appropriate consultations, referrals and documentation.

GPs said that the East Coast Paramedic program had made a huge difference, with their out-of-hospital workload having decreased considerably. Doctors no longer have to attend all accidents and the paramedics work with and train the volunteers where previously the GPs had to do these tasks. One GP also reported that 'volunteers are much more confident and capable than they ever were before there was a paramedic here.' GPs supported extended clinical skills for paramedics and saw no threat to their income through the increased scope of practice.

Senior hospital staff acknowledged that paramedics had extended their normal practice to working more within the hospitals, and further, they supported the more integrated role that paramedics were playing in the hospitals. Staying and helping with a critically ill person, or assisting with transfer of patients during x-ray procedures were two examples given.

The ECP program has successfully raised the public profile of the Tasmanian Ambulance Service. A high proportion of interviewees mentioned the positive impact that the paramedic had brought to the regional community. Most recognised that the paramedics did a large amount of community work above and beyond their normal work practice. One volunteer made the point the point that

> *Having the paramedic working here gives the East Coast community a feeling of safety and confidence in the service. Volunteers can't go beyond certain protocols.*

## Prospects for the future

To a large extent, credit for the quality and success of this program lies with the paramedics who have filled the permanent positions. They demonstrate a strong personal and professional commitment to developing their community's ability to manage emergencies, the potential of an expanded scope role, and in representing TAS across the region. One interviewee said TAS was 'lucky with the people they've got', and a Police officer noted that,

> *What she has to do I think defies normal parameters of expectations. Without the blink of an eye she will go and do extra, and she is on call for what, four days straight?*

While sole paramedic practitioners have been placed on Flinders Island when no volunteers have been available during Christmas periods, the East Coast Paramedic position remains unique with the sole paramedic operating with the support from and providing support to a number of individual volunteer units.

Current practices on the East Coast have developed within the framework of the normal qualifications of an intensive care paramedic. Any future development in the role of extended scope of practice will require a more formalised structure and more training and professional development resources. This is also related to professional recognition within the ambulance service and from other health professionals.

Paramedics are keen to see, and the GPs supported, the development of increased clinical skills for paramedics. As one GP pointed out 'not every doctor that works in a rural community can intubate, or they are not even as familiar with ECGs, or any sort of critical [treatment]'. This GP also saw paramedics as having 'more potential than the bush nurses … who do suturing and … prescribing of medication' and therefore thought that the paramedics 'should be able to do more [clinical practice] than the nursing staff.' Increased skills for paramedics would enable more early interventions such as thrombolytics and intubation, sedating, ventilating, and supported medications, suturing wound treatment, all with relevant GP authority and communication.

## *2.6 Community Paramedic (Victoria)*

### Introduction

Rural Ambulance Victoria (RAV) services 1.3 million people spread over 215,000 square kilometres. They provide emergency and non-emergency care in all Victorian provincial cities, and rural and remote areas. In recognition of the Victorian State Government's commitment to the Better Ambulance Services Strategy, RAV in conjunction with the Department of Human Service's Ambulance Services Unit undertook a review of ambulance services in two of the most isolated - remote areas in rural Victoria – Omeo and Mallacoota. Traditional service delivery models were believed to be not fully meeting the needs of these remote communities.

Omeo is set on the Great Alpine Road in South East Victoria, and is serviced by one of Victoria's 27 community ambulance branches. Omeo Station was the first settlement in Gippsland (1835) and the township has many places of historical and general interest. The local economy relies on tourism, particularly during the winter months. Mallacoota is located 521km east of Melbourne on the Far East Coast. Mallacoota is a typical quiet seaside holiday village. The town relies upon income from tourism and fishing, in particular abalone collection.

In the years prior to this innovation, both communities had increasing expectations for access to health care, and there was limited formal support and integration between local ambulance services and other health services. This role developed following community lobbying for permanent, professional paramedic presence in their community. Due to less than adequate workload and the associated effect on clinical skill retention, a full time professional ambulance crew model was not feasible. Following community consultation, the concept of the Paramedic Community Support Coordinator (PCSC) was developed and introduced (O'Meara, Kendall & Kendall, 2004).

### Paramedic Community Support Coordinator Program

This is a new, innovative model designed to integrate a paramedic with an expanded scope of practice into a community to support an already existing retained/volunteer system. The extended scope of paramedic practise model was not initially seen by all to be a desirable.

> *We've got nursing staff here. I guess I should be honest, when they first heard he was coming they were threatened. They thought that he would be doing dressings and those types of things and it is very clear that that is not what he is doing. They are comfortable with him being here now which is good.*

Another health care provider described the potential for role overlap.

> *I can see that there are a few places that they would overlap, like with the hospital a bit and the staff but it should be complimentary. It should not be, this is my domain and I don't like working like that anyway.*

The position required a completely new role specification and classification to be developed, and this task was undertaken in conjunction with key stakeholders, such as unions and the local Division of General Practice, and a community based reference group.

The objective of the PCSC was not to provide full-time paramedic availability, but rather to support the existing infrastructure and respond only to major emergencies. There was an expectation that the PCSC incumbent would provide some public health and pre-hospital care education to the community and other health care providers, and assist with the recruitment, training and retainment of new Ambulance Community Officers (ACOs). Supporting this commitment to the role of volunteer ambulance staff is Rural Ambulance Victoria's underpinning philosophy of "Ambulance in community and community in Ambulance". This philosophy was very much appreciated by community members.

> *I am just pleased that a lot of hard work was put in to get a paramedic into the area and that RAV probably hasn't done anything like this ever and that they had the courage to actually do something. I think that is a pretty big tick for an organization because we would be only a small blip on their big radar and for them to say yes there is a need - so let's see if we can come up with a program, something that will actually work in that community and I think in the big picture, it is working reasonably well because of, just what it has brought to the community.*

This model of health service delivery builds upon this philosophy and value-adds service delivery in these remote communities. The model seems to integrate well with other existing health care services in the communities. When asked about the impact the role has had upon the community one person stated,

> *We appreciate it. I think he has taken a load off a lot of people frankly - doctors, this organization. I think there is good community support for the position. Don't try taking it away or they will kill you.*

Much of the acute and chronic health management work within these areas can be more evenly distributed across the various health disciplines resulting in a dramatic reduction of the workload burden to a more manageable level. Locals, tourists and health care providers all appear to benefit from this emerging role.

The objective of the model is not to provide full time professional paramedic availability in these locations, rather to co-ordinate the support and development of existing Ambulance Community Officers.

> [The PCSC] *is not actually supposed to be on call all the time. He doesn't have set days but if he is around and the back-up is needed he will often attend the job whether we know he is coming or not.*

One Ambulance Community Officer described the dynamic of the relationship as, 'we support him, he supports very much us.'

It was anticipated that approximately one-fifth of the Paramedic Community Support Coordinator's time would be devoted to the performance of general ambulance duties and the remaining time to health education, health promotion and service development.



## Planning and implementation

Following State Government approval, the key stakeholders and community reference groups were consulted and assisted in the development of a broad set of criteria for the role. The Paramedic Community Support Coordinator (PCSC) positions in Omeo and Mallacoota were jointly advertised within Victoria from the 16th September to 10th October, 2003. Interviews took place for each of the two sites with a community representative included on the interview panels. A behavioural descriptive interview format was utilised consistent with other organizational appointments. Following the appointment of the two incumbents, Monash School of Rural Health developed an induction and training program. Both appointees completed this training package.

Capital costs (including medical equipment and response vehicle) associated with the program totalled approximately $75,000, with budget for staff and branch costs estimated at $159,000 in 2003. This included the PCSC's salary (including on-costs, overtime and relief), professional development and specialised training. The budget was identical for both PCSC sites – Omeo and Mallacoota. In-kind assistance was provided to the program from community members who formed Community Based Reference Groups and regularly met as steering committees.

Monash University School of Rural Health assisted in developing an induction program and provided advice regarding program implementation. The PCSCs have also successfully completed several courses aimed at developing their professional practise base, and they have subsequently delivered a number of educational sessions across various public health and emergency themes to other health providers and community members.

Few problems were encountered during the implementation process, even though some aspects of policy and practice were developed 'on the run'. The broad position description provided to the two PCSC Paramedics defined the expectation that each incumbent would undertake a gap analysis and devise specific programs aimed at filling these gaps. One of the incumbents seemed to revel with such a broad scope, whilst one appeared to require much greater assistance and direction.

## Outcomes

This project initiative was a strategic decision and was consistent with the organization's corporate objectives, and is continually monitored as a Key Result Area. It therefore required support from all stakeholders and the endorsement from the RAV Board, Chief Executive Officer and General Managers.

There was some initial industrial resistance from the Ambulance Employees Association (Vic) regarding pay scales and conditions of those people who may upward relieve in the position when the incumbents took leave, however these issues were effectively resolved.

The program is a pilot project, and as such will be reviewed and changes made based upon evaluation. It is envisaged that the program will be expanded across rural and regional Victoria in locations with low workloads, relative isolation from large health services and receptive communities. Apollo Bay in Victoria's South West has been mooted as a potentially appropriate site.

There have been many achievements at both pilot sites – Mallacoota and Omeo. These achievements have been consistent with the initial objectives and philosophy of the project - 'involving ambulance in community, and community in ambulance'. The Paramedic Community Support Coordinators appear to have effectively developed strong networks and relationships with many of their respective communities' key stakeholders. They sit on a number of key local committees, and this achievement has allowed the PCSC to have some involvement in developing their community, whilst allowing the community representatives to be involved in developing local ambulance services.

One health care worker raised concerns about professional isolation that are inherent in this type of position and makes the point that

> *We all have it, especially those working alone, we all have it and in a hospital there is a lot of debriefing informally, a little chit chat and lots of things available and here you are isolated, and people do soldier on a bit.*

Both sites have seen strong recruitment of Ambulance Community Officers since the introduction of the PCSC position. One ACO believes,

> *The* [PCSC] *position probably allows more people to join because you are not on your own. It takes away that sense of, I'm the only one there. So within the community, we should now be able to pick up more ACOs because there is someone there to help.*

The increased complement of ACOs has allowed greater emergency on-call availability and coverage, and has also reduced some of the burden on those ACOs who attempted to provide coverage when their numbers were lower.

## Analysis of the program

Omeo has a relatively large health service containing acute and aged care beds, and a small urgent care centre (Casualty). Mallacoota does not have a hospital, rather a multidisciplinary health service and two GPs. These differences allowed scope for the two PCSC paramedics to diversify their programs to suit local needs.

The **Omeo** position had the potential to integrate the PCSC role into the hospital through collaboration and cooperation. The only significant issue whilst working within the hospital environment was that the paramedic needed to resist taking on specific roles of other health care professionals that might risk making these positions redundant. This at times may have been difficult when assisting or applying what is historically considered nursing duties in the urgent care centre.

Some people within Omeo had difficulty establishing a rapport with the PCSC Paramedic, and they cited a number of reasons including that he lived 'out of town' (in Dinner Plains approx 40 minutes from Omeo). He also faced some resistance because he was not from this rural area, having moved from metropolitan Melbourne to take up the position. Some community members may also have had some difficulty adjusting to the full-time input of a paramedic after many decades of operating as a volunteer-only station with limited contact and support from regional offices.

Relationship building appears to be a very important ingredient in the effective establishment of this role in a small community. It seems relationships may not have been fully optimised in this area. Communication between some members of the community and paramedic may not have been ideal.

From all accounts, the **Mallacoota** site seems to have effectively implemented the program. The degree of isolation and the small permanent population is analogous to Omeo, however the Mallacoota project was more successful. The majority of informants held the view that the success of the role within a small community depended greatly upon the incumbents ability to 'manage people' and establish relationships.

Volunteer or ACO applications have increased substantially at both sites since the PCSC role was introduced, and retention of volunteer staff has been maintained. The ACOs also appear to have increased their level of confidence in their ability to 'cope' with any case of which they may be presented, and in being able to effectively service their community. An ACO states,

> *There is always that nagging fear that we are going to collect with something we can't handle or do something or the level is too high but now that* [the PCSC] *is here I feel he has increased the level of confidence in myself and my own abilities to attend a case.*

A local general practitioner agrees

> *I think the casual staff [ACOs] level of competence and confidence has definitely been improved since [the PCSC] has been here.*

Another community member also directly attributes the increased recruitment of ACOs to the introduction of the PCSC role.

> *We ended up having a situation where there were really only about three ACOs and no one else would join. It didn't matter how much we appealed or how many advertisements we put in our magazines we couldn't get them. Then* [the PCSC] *comes and mate, he is knocking them back so I think the proof is in the pudding so that is one of the major changes I can see in the attitude of the ACOs.*

The timing of the implementation of this project was appropriate as one of the permanent medical officers was physically unable to continue providing after hours medical coverage to the area and was considering leaving the medical practice unless a suitable alternative service was provided. The general practitioner reflects,

> *Having* [the PCSC] *here has been an enormous bonus to us, the practice. I mean before* [the PCSC] *came I was on the verge of leaving the practice.*

The service provided by the PCSC paramedic filled this gap, effectively encouraging the GP to continue on in their community.

## Reflections for improvement

There were three major lessons learnt from these pilots in East Gippsland. The role expectations of the PCSC Paramedics may need to be more prescriptive. The implementation team expected that by providing the successful candidate with a broad set of parameters to work within, the paramedic would be able to tailor an individual program for their specific community. This seemed to work effectively at the Mallacoota site, but was less successful at the Omeo site. This is possibly due to the specific attributes and personality brought to the project by the individual PCSC paramedics.

Based upon information gleaned regarding the importance of personality and managerial traits, the second lesson learnt was that selection panels may have to look for a different range of 'desirable' attributes. One health care provider stated,

> *What I have seen of this role, personality is more important than even the clinical skills that might go with it. They must be able to communicate on a level for those people that are the farmers of the district and their wives. So probably even more so than being in a team and being just on crews, personality is pretty important in this role.*

An ACO reinforces this belief

> *The person that's appointed to this particular role, needs to have not only the clinical skills but the means in which to communicate those to ACOs and other health professionals,* [and to] *community groups, so that 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.*

During the recruitment and selection process for the PCSC positions, there was a significant emphasis on working in isolation and clinical aptitude. It may be that experience with rural or isolated communities, managerial and project experience may need to be further emphasised.

The community and ambulance service interface requires effective transfer of information in regard to their expectations of the paramedic. In Omeo, the community's expectation seemed to be that the PCSC would attend every case, day or night alongside the ACO crew. This is in contrast to RAVs expectation that the PCSC would only attend about 20% of cases, and then only if they were 'urgent' and required his advanced clinical expertise. This seemed to cause some conflict in the Omeo community when the PCSC did not attend a case, with the patient or family feeling that they received a lower level of service than expected. An ACO recalled,

> *Just recently we went to the Dinner Plains school and everybody was saying, why didn't we have the paramedic, why didn't he come and all that but in the end he really wasn't required because it was something that we could actually handle.*

During the implementation phase of this program Rural Ambulance Victoria used these and other observations to amend the PCSC position description in order to create a better match between the expected roles and the expected attributes of current and future appointees. They now have a well-documented and flexible program that has the potential to expand to other geographic locations in rural and remote Australia.



# 3. Discussion

## *3.1 Developing a Rural Model of Practice*

### Introduction

The principal components of ambulance service operations are call-taking and dispatch, emergency medical response, pre-hospital care, non-emergency transport, and major incident and disaster preparedness (DHSV, 1998). These components have been considered 'non-negotiable' when consideration is given to expanding the roles of ambulance services and paramedics. As a result, the most obvious example of innovation has been seen in the widespread introduction of Advanced Life Support trained staff that has evolved as a result of advances in technology, medical science and the education and training of paramedics.

From a rural perspective, communities expect adequately resourced ambulance services that are able to respond quickly to their needs with well-trained staff that behave in a professional manner (O'Meara, 2001). They expect similar standards of service to their peers in larger centres. Ambulance services have responded to the 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. 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; and
- community engagement.

Scope of practice changes in any of these domains will have an impact on the profession and way services are delivered. In some States a major challenge for ambulance professionals will be the sharing of their emergency response responsibility with other providers such as first responders, emergency services, nurses and volunteers within ambulance services and other providers. In other States, the integration of volunteer staff in rural areas is well established and taken for granted to varying degrees.

The communities in the case studies shared common environmental issues, such as 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. In light of these environmental issues, some health professionals questioned whether the provision of additional paramedic clinical skills are the panacea once thought.

> *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 continued reliance on volunteer staff in many rural areas gives ambulance services a strong presence at the intersection of public safety, public health, and health care, despite paramedics increasingly seeing themselves as health professionals (Gaza, 1994; Meade, 1999). Volunteer staff expressed the view that there are opportunities to develop extended roles for paramedics in partnership with themselves, other health services, emergency services, and local communities.

> [compared with other health staff] … *we have more faith in the skills of a paramedic as we know what they can do.*

This chapter concentrates on the activities that a proposed rural expanded scope of practice model would undertake in the traditional out-of-hospital setting, hospitals and the wider community. The vital roles that education and relationships play in developing and sustaining these new and emerging roles are discussed in later chapters.

## Models: theory and alternatives

A number of writers have identified a range of elements or components that make up emergency ambulance systems (Anderson, 1992; Delbridge et al., 1998; Gallehr & Vukov, 1993; Lynch & Georghiou, 1995; NRHA, 1997; Nicholl et al., 2001; Ornato et al., 1984; Reich, 1991; Smith et al., 1997; Vukov et al., 1988; White et al., 1988). These elements include human resources, equipment, education and training of staff, medical input, research, communication systems and planning. We do not intend re-visiting this area of study in any detail.

When new models are developed or articulated it is important that there is a common understanding of community expectations such as accessibility, responsiveness, competency, communication and teamwork and ethical behaviour (O'Meara 2001). It is also vital that appropriate measures of performance be developed for the evaluation and monitoring of new models of service delivery (O'Meara, 2005). These factors aside, at the most basic level a model of service delivery consists of an individual mix of interdependent elements, activities and relationships (Patching, 1990).

Potential changes in the paramedic role have been suggested in other countries in both urban and rural settings. In the United Kingdom relatively independent practitioner roles have developed called Emergency Care Practitioners who are drawn from either experienced paramedics or nurses (Bilby, 2005; Nicholl et al., 1998; Woollard, 2003). In the United States and Canada there have been calls for broader scopes of practice paramedics and in many areas physician assistants are well established and accepted (Bradley, 2005; Clark, 2003; Clark & Sagar, 2005; Mason et al., 2003). One overseas model that has relevance to extended clinical practice in rural Australia is the multiple-option decision point (MODP) model, which uses protocols to place patients into four action categories:

- Patient would require ambulance transport to emergency department;
- Patient is thought to need emergency department evaluation, but may safely go by alternative means;
- Patient may be referred to his or her primary care provider within 24 hours; or
- Patient would require field assessment and treatment only (Neely et al., 1997; Schmidt et al., 2000).

The MODP model requires higher level clinical judgement and clinical treatment than the traditional 'scoop and run' model. The paramedic's role becomes more of a 'meet and treat' approach and has the potential to expand toward that of an independent clinician. The competencies required for this type of paramedic practitioner have been developed in the United Kingdom by the Higher Education Ambulance Development Group (ASA, 2003).

Closer to home, Sinclair (2000) has suggested that in rural areas ambulance services have the opportunity to demonstrate the capacity of the ambulance system to fulfil broader public health and primary care outreach roles for traditionally under-served communities. He recommended that ambulance services co-locate their branch stations with rural hospitals and to encourage greater involvement of ambulance staff in public health activities during 'down time' (Sinclair, 2000). The Victorian and Tasmanian case studies show evidence of these concepts being trialled, with greater interaction and integration between the ambulance service and hospital services being evident. The South Australian innovation more directly illustrated the potential for these concepts to be expanded in the absence of adequate medical services.

For the purposes of simplicity, ambulance service delivery models can be described as competitive, public sector, expert, community-volunteer, or practitioner models (O'Meara, 2002). These abstract concepts can be combined and mixed to formulate 'real' models suitable for implementation in different settings. The community-volunteer and practitioner models are most relevant to those parts of rural Australia studied as the other models appear to be more suited to metropolitan and regional locations where there are significantly higher caseloads and they are able to sustain themselves financially and professionally. The proposed rural expanded scope of practice model draws heavily from these two conceptual models, along with the empirical research already completed in the United Kingdom, North America and locally in Queensland.

The **community-volunteer model** is based on the community taking responsibility for providing emergency and pre-hospital care. This may be through health professionals or community volunteers, who provide a viable service with or without active government support. This 'bottom up' characteristic of the model makes it a resilient model in communities that are strong. However, it lacks professional linkages between local ambulance personnel and those practicing elsewhere. Staff working in this model may be volunteers, who often lack professional training and education. As a result, there may be a lack of professional support for volunteer staff in the same way that career paramedics are supported. Because of this weakness, the community-volunteer model needs in-built standards and frameworks, with strong medical audit mechanisms. The innovations examined in both Victoria and Tasmania responded to the fragility of the existing community-volunteer models in those communities. Volunteer staff expressed their confidence in the models on a number of occasions.

> *The paramedics absolutely fill a gap because prior to this, there were only volunteers. There is a huge gap between advanced care and the volunteer system.*

The **practitioner model** is an emerging model that is presented under a number of different names and descriptions. Its strongest feature is its flexibility as it provides either an emergency 'safety-net' system or an advanced clinical care system, it responds to emergency needs and has an integrated public health role that is closely linked to the broader health system. Multi-skilled paramedics in this model have a key role in promoting healthy lifestyles, and preventing death and injury through public education programs. The two distinctive characteristics of the practitioner model are the existence of a research and development agenda, and the multiple decision-points that exist during the cycle of care. It also has the potential to be more cost-effective than other models that rely on high staff numbers around the clock and extensive use of advanced technology. The model is well suited to rural areas that have high ambulance 'down-time' and a dearth of public health workers. The case studies in South Australia, Tasmania and Victoria have drawn elements

of the practitioner model into their innovations, while in New South Wales there were calls for this level of flexibility and relatively autonomous practice. Paramedics and other health professionals described the essence of the emerging rural paramedic role highlighting the extension of knowledge and skills required when operating with limited support.

> *Being in this role … required a lot of experiences as an ambo and clinically sorting out sick patients, however, that's in an urban environment and we get to the end of our clinical practice guidelines quite quickly and then we've got another couple of hours to go to get a patient to hospital and so it's a matter of improvising a lot of the time. But that's okay because I feel as though I've got the experience to be able to do that and see the case review later on and that seems to have been regarded as reasonable too.*

> [Paramedics] *respond to cases from communications. They then assess, stabilise, and decide on treatment and transport in terms of how, as in the helicopter, or where, in terms of* [town x] *or* [town y]. *The majority will stay and assist at the hospital, especially after hours, so there is a continuation of care. The hospital can get quite busy and paramedics will provide support. Skills wise, some nurses cannulate whereas others cannot so the paramedic will do this. The VMOs are supposed to be within 15 minutes call but in reality this takes longer. This period is covered by the paramedics.*

## Description of the RESP Model

> *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 organizations and emergency organizations 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.*

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 when working in low workload areas.

> *I have only been in the job for a year and a half and to realise that you come out to a place here and you don't use your skills a lot, I find that very hard, because like I said before, you feel that you go backwards in a job and you wish you could treat more patients and do your work and be really involved in it, because you are keen and you are eager to do it …*

The proposed rural expanded scope of practice model combines the strengths of both the community-volunteer and practitioner models. 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 the paramedic practitioners as leaders.

The evolution of this model is a response to the need for paramedics and ambulance authorities, in common with other health professionals such as nursing, to review the way they practice and to re-evaluate their roles and functions in a changing rural environment (Duffy, 1998). The model also has the potential to be more cost-effective than urban models, and promises improved access to an appropriate level of clinical care for people in rural communities.



The two case studies in Tasmania and Victoria are similar in concept to this emerging model, with the South Australian case illustrating the potential of the model within small rural hospitals that are hard-pressed to retain full medical staffing. We have called it the **Rural Expanded Scope of Practice (RESP) Model** and its practitioners will undertake the following activities as the core components of their new role.

**R**ural community engagement

**E**mergency response

**S**cope of practice extension

**P**rimary health care

## Rural community engagement

Rural community engagement encompasses extended 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 Tasmanian, Victorian and South Australian case studies, we witnessed and were told of the high esteem in which the paramedics were 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.*
>
> *So there are lots of levels of communication, not only professionally but socially that are important in the evolution of the role, of all our roles and ultimately what is the best outcome for the patient or the community member and we are all striving for that.*

## Emergency response

Emergency response includes the traditional role of responding to incidents or in support of volunteer and first responder services. This is close to the traditional role of ambulance services in rural Australia. The main challenge that this new RESP model faces is convincing paramedics and others to extend the role beyond this core activity. Paramedics expressed differing views on how they understand their roles in small rural branch stations.

> *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.*
>
> *I would have liked to have learnt before coming here about … issues facing the rural communities and health issues in rural communities. I think there is clearly a lot of data out there around those things. How rural communities as a population interact with the health service and how they participate in the health service.*

## Scope of practice extension

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.

> "Occupational medicine plays a significant role in how these medical teams function in the wildfire environment. Many times patient treatment can be treat and release-type care. The patient may require wound care, antibiotics, or minor suturing and the worker could then be sent back to the line. This type of medical care is outside the standard scope of practice even at the paramedic level in most states, yet with some advanced training the field provider could be the best choice for care."
>
> (McGinnis, 2004)

We saw in South Australia how paramedics expanded their clinical scope of practice under the supervision of the Ambulance Service Medical Officer. Ambulance authorities need to be aware of the statutory arrangements that may need to be accounted for when considering expanding paramedics' scope skills in hospital or institutional settings. Dialogue needs to be entered into between ambulance authorities, the profession and other health care professionals when considering new paramedic roles in public health functions such as administering immunizations, conducting screenings, and offering public health education (McGinnis, 2004). Despite these challenges paramedics and other health professionals expressed support for the notion of extended roles in the hospital and other environments.

> *At the end of the day, rock into the hospital with no GPs available, and between you and the nurse practitioner you could achieve anything.*

> *Up to 3 weeks we did not have anybody* [a doctor] *to cover at all so that puts a huge burden on the staff here* [at the hospital]. *I was on call all the time when we did not have a GP …. So it was just I couldn't ever really settle.*

In Tasmania we saw how paramedic practice could be extended in the out-of-hospital environment under the authority of general practitioners. Two GPs expressed favorable sentiments about the paramedics, the skills they had brought to the community, and their positive contributions to the health of the community. Close working relationships had been built up other the years and the GPs were confident of the paramedics' skills and supported an increased scope of practice for the paramedics. This strong working relationship demonstrates a potential for a future doctor-paramedic professional relationship in rural settings.



## Primary health care

> *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 any 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.*

Primary health care integration will 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. Inherent in this role is that of 'teacher' as a support to ambulance volunteers, first responder groups and other health professionals. Volunteers appear to have embraced the model where it has been introduced.

> *There was an attitude of bloody paramedics! The thinking was why are they coming when we can do it. But, then you got used to it. The paramedics actually will decide what to attend, and we still attend a few by ourselves.*

> [The paramedic] *makes an assessment and communicates that assessment in a very sensitive way making sure that he is not frightening the patient and making the conditions worse ... he is very much a teacher to the volunteers.*

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.

> *But it all has to be done in a way that you don't lose your emergency role completely, it becomes impossible to get hold of you because you are running around doing community health medicine. So you need to find that balance between what works and what doesn't work. You also have to make sure the technology is correct, and that the users of the systems stay in touch with advancements.*

The extent to which ambulance personnel 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. The issue is not whether ambulance staff should do more primary health care such as community injury prevention but rather what more should be done to maximize the effect. According to this theme, local ambulance professionals need to tailor their initiatives according to local epidemiological defined realities as rural areas are very different from one another. Hence preventative medicine must be both generic and tailored for each jurisdiction through epidemiological analysis of local injury and health status data (Rothe, 2002).

> *How far the skills will extend needs to be considered - they may be juggling too many hats. But it may be a good thing for all professions to broaden their outlook and have some overlap with each other.*

## Strengths and challenges of the RESP Model

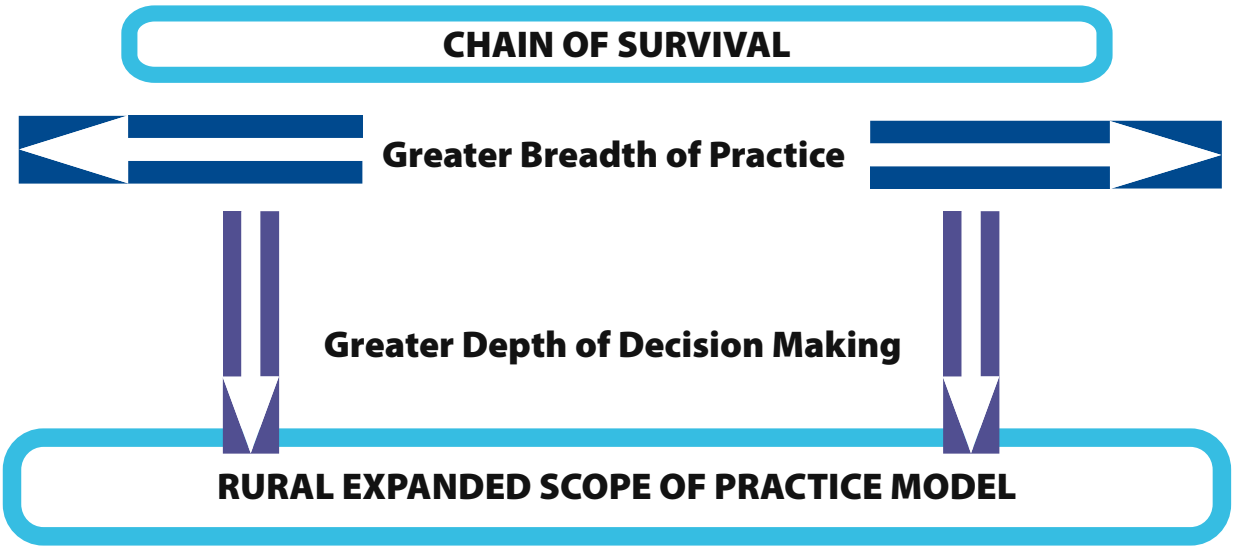
The RESP model has historical links to ambulance tradition and practice throughout Australia, where volunteers formed the genesis of most civilian ambulance systems. More recently paramedics have formed strong bonds with the established health professions and are seen as an emerging health profession.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

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 recognized for some time that the role of ambulance officers in small rural towns needs to be redefined if small rural communities are to make the most of their limited resources (Sinclair 2000). 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 seven links of the emergency event - discovery, access, notification, triage and dispatch, care and transport, and definitive treatment (Jacobs et al., 2001; Steill et al., 1993; Stratton & Niemann, 1998). The extension is in 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 as an extension to ambulance practice (Figure 2).

Figure 2 ***RESP Model and the Chain of Survival***




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 the 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** in this regard are:

1. Local community involvement and integration with the health system across the whole continuum of care, from public health activities to prevent the incident, through to response, treatment and transport, and then further care during the recovery phase.

2. Provision of both an emergency 'safety-net' system and an advanced clinical care system that is able to respond adequately to emergency medical needs.

3. Combination of core ambulance service roles with an integrated public health role that is closely linked to the broader health system.

4. 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-organized and high quality care.

The position description drawn from the Victorian case study is a good pointer to the responsibilities of an appointee to a branch station or cluster using the RESP model:

- ensure the ongoing viability of the Ambulance Community Officer [volunteer] program through the provision of administrative, recruitment and training support within the local area;
- provide Advanced Life Support care within the community in support of existing emergency practitioners and health care agencies when available; and
- identify health, education and emergency response needs based on an understanding of the demographic and health profile of local community and identified service delivery gaps, and develop and deliver approved community and emergency education programs with an emphasis on community building, health maintenance and prevention (RAV, 2005).

When conducting the case study interviews and during more informal interactions amongst colleagues, the research associates received a mixture of comments about the concept of an expanded scope of practice that ranged from the positive and enthusiastic to complete apathy. Despite the positive views of many who are keen to see professional practice and recognition advanced, some paramedics may have lost sight of who the system is designed to benefit and clearly do not want to change the way they work. Thankfully, they are in the minority with one interviewee stating that "It's the best job in the entire world." Another expressed a frustration with the obstacles to progress.

> *Advanced skills will be better for the whole community. As a team the hospital and paramedics would continue to work closely. Don't give a crap about the politics, just need to work as a team.*

## Knowledge, understanding, skill and professional behaviour

> *What we should be doing … is suturing, and definitely ventilators, sedation and intubation before the patient is dead, advanced pharmacology, these should be done to assist.*

> *You can extend out into areas like Telehealth. Hook back into a modem arrangement. Even in a patient's home you can say look, these are the symptoms, these are the observations we have taken, here's a physical view of what we are looking at. Even if they are simple photographs you can transmit and say this is what we've got, this is what we'd like to do, how do you feel about all this? It seems stupid taking someone from* [small town] *in the middle of the night to town, when all they might need is something simple.*

If the RESP model is to be embraced as part of an integrated health care system, its introduction needs to be closely scrutinized to ensure that any changes have positive public health outcomes (Bissel et al., 1999a, 1999b). A key component of this is to select the right staff and ensure that they given relevant skills and knowledge, along with ongoing support.

> *I think it is really important that this model … attempts to ensure as much as possible, that the right person, the right attributes,* [and] *the characteristics are taken on board.*

Apart from advanced life support knowledge and skill sets related to patient assessment, clinical judgement and patient management 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 both local and regional stakeholders. Additional knowledge and skills would be developed on existing competencies.

It is apparent that the role of the RESP paramedics needs a robust undergraduate education that will provide them with the knowledge, understanding, skill and professional attitudes that will enable them to operate as independent practitioners. As members of interdisciplinary and inter-agency teams they will be required to work to their specified level of competence, with patients of all ages, with individuals and in groups. Effective practice requires the recognition and understanding of the social and economic context of their patients in assessing, planning, delivering and evaluating care.

The Higher Education Ambulance Development Group of the Ambulance Services Association in the United Kingdom has developed a set of competencies for paramedic practitioners that have been adapted to the Australian setting and included in the Assessment and Accreditation Guidelines as the agreed attributes of paramedic graduates of Australian university paramedic programs.

The agreed attributes relate to:

- Knowledge and understanding;
- Skills; and
- Attitudes affecting professional behaviour.

These attributes should form the framework for competencies required by the RESP model.



### 1. Attributes relating to knowledge and understanding

RESP paramedics should have knowledge and understanding of:

- individuals and groups in a broad range of settings including acute, primary and critical care settings who present with complex and challenging problems resulting from multi-pathology illness and injury;
- the age span of human development from neonate to old age;
- patient-client autonomy, embracing the concepts of inclusion, equal opportunities, individual rights and empowerment of patients;
- the role of the paramedic in the health and public safety system;
- the moral, ethical, legal, social, economic and political implications of providing paramedic practice;
- partnering in the delivery of emergency medical and health services;
- current trends in the evolution of community based emergency health services as a basis for leading innovation in ambulance-based health care and appropriately responding to the challenge of change; and
- the principles and practices of evidence-based practice, and their application to paramedic practice and service delivery.

### 2. Attributes relating to skills

RESP paramedics should have developed the following skills to an appropriate level for their stage of training:

- recognise and assess appropriate symptom-syndrome patterns and care for patients;
- provide and/or assist with care during the transport of patients of all ages suffering from illness, injury or disability, whether physical or mental, acute or chronic including retrieval or escorted patients;
- apply professional skills, techniques and knowledge for safe, efficient and effective operation of medical equipment and procedures in a pre-hospital environment;
- ensure that care and treatment is maintained on arrival at hospital, until responsibility is handed over to the appropriate personnel;
- communicate and work effectively with other emergency services personnel and other members of the health care team;
- manage the associated social, cultural, religious, emotional and communication aspects of sick and injured persons, their relatives, carers and bystanders;
- practice as a paramedic within an appropriate ethical and professional construct whilst adhering to relevant legislation, regulations and industry policies;
- initiate and/or assist with rescue techniques as appropriate and initiate the management of multi-casualty incidents;
- develop the use of problem solving techniques in the planning and implementation of pre-hospital emergency care;
- use reflection and self-evaluation to evaluate and inform performance; and
- use effective presentation and communication skills to provide basic instruction to individuals and small groups.

**3. Attributes relating to attitudes affecting professional behaviour**

Graduates should acquire the following professional attitudes and behaviour, which are regarded as fundamental to paramedic practice:

- meet the needs of the community, the industry and the profession as a practicing paramedic and member of the health care team;
- appraise and adopt a critical and enquiry-based approach to the delivery of care;
- contribute to the professional paramedic knowledge base and research programs and practice within an evidence-based paradigm;
- promote the use of evidence/research in the paramedic profession in providing optimum patient care;
- commit to team and partnership working and to working with other professionals;
- appreciate the role and concepts of continuous improvement and development in ambulance services;
- recognise the implications of improving the quality of services delivered on the broader health care system; and
- demonstrate an appreciation of and commitment to self directed professional development and life-long learning.

## *3.2 Working with other Health Professionals*

### Introduction

The data from the four sites examined provides 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; in common they shared the characteristics of small populations with low population densities, all of whom were relatively remote from larger population centres.

Health services generally reflect the requirements and special features of the population being served; it is therefore both the "commonalities" and the "differences" of the characteristics in the sites examined that are of particular interest. Further, the introduction of a paramedic with advanced skills has provided a new option in increasing the size and scope of the primary health care "team".

In this section we will examine both the effect of this additional resource and also the response of the local community (especially the health professional community) to the change. Quotations from the case studies have been specifically used to demonstrate the depth and variety of responses to the interactions by those actually involved.

### Role of the paramedic

With the exception of the South Australian positions, which were more clinically focussed, positions in the other three states had a number of common elements. These elements included:

- community-based work and education (especially health promotion);
- clinical care (both pre-hospital and hospital based);
- health professional education (of both ambulance service and other health professionals);
- administration.

As shown by the following examples, the differences in the conduct of these roles at each of the sites appear to reflect the characteristics of the local community, the existing organisation of the health services and the interests of the paramedics. However, in the case of the NSW sites, the potential scope of the roles listed above was much less developed.

> *The objectives of this program is for this position to be out there and doing things that are not typically seen as a paramedic's role, running health promotion activities, going to the schools about first aid treatment. (Victoria)*

> *We support local services that are already in place, whether they be sort of voluntary organisations, or you know local medical officers. (NSW)*

> *They've been involved in public education as skills levels teachers of pupils in first aid settings. That first aid education is extended to other emergency services such as the CFA and State Emergency Service … by extending or offering ambulance protocol to nurses or nurses working in the community health services. (Victoria)*

> *… provide emergency care to people who need it and require us and that also in this area incorporates transfer of people to other areas. (NSW)*

*We do a lot of community work in the area as well. (NSW)*

*The paramedic will stay at the hospital as part of treatment in these patients and help with the general care, give advice on where to most appropriately send these patients and provide a cool head in this environment. (Tasmania)*

*A large part of my time last year was to recruit and train a number of new ACOs (Ambulance Community Officers). (Victoria)*

## Scope of professional interaction

The paramedics interacted with three groups of professionals – other clinicians or health professionals, administrative staff and other emergency management personnel.

In addition to other paramedics, nurses and then medical practitioners (mainly general practitioners) were the clinicians with whom the paramedics interacted most. There were also interactions with a range of administrative staff, including those from ambulance, hospital, local government and state health authorities. The paramedics, as would be expected, also interacted with all of the other emergency services that function in rural Australia, including Police, Fire and State Emergency Services.

While it is the subject of a separate chapter, the interaction of these paramedics with members of the community must also be mentioned. It is in these interactions, whether it is training of volunteer community ambulance officers, serving on committees, fund raising, public speaking or any of the other community based activities, that some of the richness of the role of these paramedics can be found.

## Site of professional interaction

Generally (with the exception of working with other ambulance staff) the paramedics interacted with other professionals by entering or contacting them within the other person's professional area. Again, there were differences between the sites with some South Australian paramedics working from a hospital base, while some NSW paramedics appeared to interact with hospital clinicians less frequently:

*… paramedics may be used to help out when nursing staff busy with multiple patients. (Tasmania)*

*… we have an agreement in that the paramedic coming to emergency and working with the staff and then continue after the handover and stay there and help out. (Victoria)*

*I was assigned to work from* [town X's] *hospital casualty department. (South Australia)*

*There is more administrative work in his current role. He is more like a station manager than a regular MICA paramedic. (Victoria)*

*Our role as Ambos is, you get there, you treat them as per protocol so and so, take them to hospital, and that's it, see you later, off you go. (NSW)*

*… we provide care in general, not only on an emergency level, but there is quite a wider role in that we can be called on by the community … have made quite a point of pursuing cases out of my own interest, and also concern for the community, which is above and beyond what would normally be considered our role within the Ambulance Service. (NSW)*

## Response to inter-professional interaction

Apart from the (usually strongly positive) comments about community level interactions, comments were confined to clinical interactions. As the role of the paramedic could be perceived as one health professional encroaching upon the "territory" of another, it was not surprising that responses varied across the spectrum from strong support to more negative comments. Similarly, as the role involved modification of the more traditional tasks of a paramedic, it was not unexpected that there were also several comments about role delineation within the ambulance service.

However, of particular interest was the finding that there were very few strongly negative comments. Most comments were either positive or contained constructive suggestions for further improvements in the service provided. It was interesting to observe that actual or perceived overlap between the health service providers was generally viewed positively.

> *Feel there is an overlap mainly because of low case load. Certain jobs don't need ALS (Advanced Life Support) at all, for example a sprained ankle or a simple burn. (Tasmania)*

> *Dressings and when I say basic care, I don't mean that derogatory or anything, but that type of care the nurses would be very threatened if somebody came in and did that. (Victoria)*

> [regarding community health nurse] *I think there are areas where that could overlap in a positive way .. as far as an educational point of view or as supportive in the community, I think it overlaps a lot with areas she is covering. (Victoria)*

> *I wouldn't say they are overlaps, they are enhancements. (Victoria)*

> *Not only is it good to know that there is that additional back up if required, but they are also a useful resource for instruction and support if you have one of those jobs that you are not 100% sure about and you want to debrief. (South Australia)*

> *It is better for the nursing staff now, because of things like the patient arriving already cannulated etc. (Tasmania)*

The different perception of the roles of these paramedics and the potential for conflict was starkly demonstrated by two comments from general practitioners in different states:

> *For me, the stress, the pressure that has been taken off this practice … for me, the pressure as far as emergencies go, has just evaporated with the paramedic being here. (Victoria)*

> *They have certainly taken a lot of the workload of us here at the medical centre. (Victoria)*

> *I do not believe in them expanding their role into other things but am happy to have them assist when needed. (South Australia)*

> *Paramedics should not step out of their boundaries and into the role of medicine otherwise doctors will stop working except between the hours of 9-5. (South Australia)*

The presence of a more highly trained paramedic has altered the previous balance of health professional staff within the respective sites. Most people who reflected on the changes were positive in their assessment. The Victorian and Tasmanian programs, in particular, were warmly perceived.

> *People are really impressed. Paramedics are way up there in the public's eye. (Victoria)*
>
> *The GPs, MDHS, the police seem I think to have more confidence in the ambulance than they possibly previously had. (Victoria)*
>
> *It has just changed everything from a very ad hoc, very casual to just very professional, structured and we all basically know how it is organised. (Victoria)*
>
> *Don't continue the program. It shouldn't have to. (South Australia)*
>
> *I think the program is best left to back up rural GPs in their absence instead of GPs needing to find locums to fill the spots, but maybe with the support of telemedicine to support the IC paramedic where warranted. (South Australia)*

## Legal issues

The legal issues are mainly in the domain of clinical skills and particularly concentrate on practitioner competence and the acceptance by an organisation that a paramedic may work within the physical boundaries of their organisation (e.g. hospital). These are key areas to be resolved if the expanded role for paramedics is to be sustainable. In the sites considered in this project the issue of clinical skills has generally been managed by documented competency assessments of the paramedic concerned, while the organisational boundary issues have generally been dealt with by use of memoranda of understanding.

> *Our system is definitely fairly black and white and goes down to a predetermined sort of course of action" (NSW)*
>
> *People don't understand the roles that our bureaucracies give us particularly well. (NSW)*
>
> *A MOU with all the hospitals to eliminate the confusion about where we commence and stop patient care in the hospitals. (South Australia)*
>
> *Would like to see more professional recognition of paramedics, and a national consistency. (Tasmania)*

## The advantages of defining the paramedic role

As expected, this review of the impact of the introduction of a new member of the health care team has demonstrated both benefits and conflict as a result of the new range of interactions that have developed. As the role of the paramedic evolves, it will become easier both to describe the role and also identify those communities that would benefit from the introduction of this potential new health care resource.

Describing and then defining the role has many advantages. Among these are the ability to clearly identify potential benefits of the role, determine the scope of practise and the training needs for the competencies required of such positions. This will lead to the articulation of the standards of care that are expected to be provided, identification of methods by which these competencies can be assessed and the development of appropriate professional indemnity arrangements. The Victorian and South Australian case studies had strong formalisation processes in place.



Such identification and documentation of the paramedic's role will not remove conflict from professional interaction, but it will provide legitimacy and a career structure to the role of the paramedic. If, as the findings of this project suggest, the role of a paramedic develops further – and can be adequately defined – the quality of the interactions between the paramedic and a range of other health professionals will depend more on the quality of the communication skills of the practitioners involved, rather than a debate on the worth of the new role.

The roles of various health professionals and health service organisations continue to evolve. Primary care is provided by doctors, nurses and ambulance staff. Increasing knowledge and skills, together with legal requirements of practise, 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 are 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 placements in smaller rural areas.

Into this ever-changing environment has now been introduced the extended scope paramedic, or advanced trained ambulance officer. They bring the skills of a competent paramedic, with advanced skills in emergency management, especially airway management skills. Such skills are usually in limited supply in smaller rural areas, being usually confined to experienced, specifically trained, general practitioners. Their previous work experience also provides them with a working knowledge of not only the ambulance service, but also the other major branches of the emergency services. Further, their clinical knowledge and experience allows them to undertake roles in community based health promotion.

The potential for such a paramedic to provide a valuable supporting role within the local health care team was recognised by many respondents.

> *But, to me, you are also considering what skills each person has and you work within those, and as long as you do that, and someone is not trying to do something they don't know about, you won't go wrong. (NSW)*

> *The government is always stating they can't get doctors, so to train paramedics to higher skills when a doctor can't do a house visit would be good. (Tasmania)*

This project has shown that these paramedics can improve health care service provision in a local area. Further expansion of the role may be possible, but the feasibility and desirability of this is yet to be proven. However, there remains a clear need to further refine and define their role. The assessment of professional competence (and the associated education and training), role delineation and agreements for cooperation between professional organisations are key steps as the program continues to evolve.

## *3.3 Community and Volunteer Engagement*

### Context

Volunteer ambulance services have been a feature of Australia's health care since the 1800s. Australian ambulance volunteers began as associational self-help groups where individuals set up local services linked to the globally recognised The Order of St John Priory. Increased professionalisation of ambulance services over the last half of the 20th Century saw most local services taken over by larger government bodies (Lyons, 2001) and volunteers were either replaced entirely by paid staff or became limited to regional and rural areas. Now there are around five thousand operational ambulance volunteers, and one thousand operational support volunteers within Australia (Productivity Commission, 2006), with the trend showing increasing numbers of volunteers. Despite the important role that volunteers play in allowing ambulance services to extend limited budgets and to provide services in areas that would otherwise not be viable, a metrocentric focus has meant that many volunteer services receive limited attention and support.

Government agencies have shown a renewed interest in improving the government-community interface since the 1990s due to a renewed policy interest in both the role of volunteering and communities and a focus on improving the health of rural Australians. It is expected that volunteers can provide cheaper and more flexible forms of service delivery (Hughes, 1994) and play a participatory democracy role that assists communities to solve local social and service delivery problems (Stretton & Orchard, 1994). Hence, ambulance services need approaches that better integrate community partnership thinking into their service planning and delivery, particularly for rural areas. These data suggest that the RESP model can facilitate this, but that it will be easier for those areas with an existing strong volunteer role rather than in areas where volunteers have been completely replaced by paid staff.

Services with existing volunteer ambulance officers however have reported problems with recruitment, retention, training and support (Fahey & Walker, 2002). These have arisen from some historical 'neglect' of volunteer providers, from the pressures of professionalisation and risk management, and from the difficulties in adequately linking a community based volunteer service with the formal ambulance service organisations. In both the USA and Australia there was a worrisome fall in many emergency service workers (Fitch, 1994; Morisey, 1993; Reinholdt & Smith, 1998) and the 1994 Senate Standing Committee Report on Disaster Management in Australia (Emergency Management Australia, 1999) stressed that volunteers need to be encouraged and supported if response capability is to be maintained. Even where numbers of volunteers have recently increased, as in ambulance, it is clear that often the time committed by volunteers is decreasing, and that volunteers may still be lacking in certain areas creating roster coverage problems. The RESP model appears to offer a strong solution to some of the problems associated with managing rural volunteer based services and in facilitating community participation, but will need careful implementation to achieve full benefits.

### Case study variations in volunteer and community interactions

Each case study demonstrated varied aspects of community engagement and the utilisation of volunteer support. Community engagement was either a major design element, an evolving element, or a desired but not achieved element.

Only two case studies had defined responsibilities for volunteers. Some Victorian 'volunteers' are retained staff and are paid a casual rate to attend cases, but are considered to be volunteers for this study due to the large amount of donated time they contribute in on-call and training. RAVs Paramedic Community Support Coordinator has the most clearly documented and comprehensive responsibility for volunteers which included recruitment, training and organisational and managerial support that would assist in retention. Clinically, the paramedic attends only major emergencies, which prevents too much overlap with volunteer responsibilities. The Tasmanian RESP-type model has responsibilities for supporting at least four volunteer-only stations. The paramedic has less responsibility for volunteer recruitment and management, and does not work as part of a crew with volunteers, but instead may attend cases to back-up volunteer crews, or vice versa.

## Engaging communities and volunteers

Increased interactions with rural communities are a major feature of the case studies. The RESP role increased interactions with communities by supporting either one or several volunteer teams, and undertaking primary health prevention and networking roles. Central to these activities was the need for the paramedic to have good interpersonal skills and to be pro-active in needs analysis and strategic planning.

Networking was a key feature when the paramedic lived in the town, then become known and involved in community life in a form of embedding that relief paramedics had difficulty emulating. Involvement in committees was common ranging from Road Safety Task Force Committees to health based committees aimed at establishing new health care infrastructure. Linking the community to the ambulance service through interactions with key social and sporting groups also occurred. In this way some of the paramedics established themselves as leaders within the community and represented health as key stakeholders. A fully-developed RESP model will need to include training in leadership and interpersonal communication for paramedics, to facilitate a successful community- organizational interface.

The NSW case study provided interesting insights into the difficulties associated with the development of community engagement. The area under study had planned to initiate the use of volunteers to assist ambulance provision in low case load areas. However, even when the barriers of paid staff job protection from unions were negotiated, communities proved difficult to engage. Initial approaches within communities did not generate enough support to begin volunteer services. This suggests firstly that there may have been an inadequate community consultation process and that a top-down approach will not stimulate adequate community involvement. It is likely that communities will not support the development of volunteer services that are seen to be replacing a paid service unless they identify a separate need and understand the health care benefits. The benefits of the community role must be clear to community members. Without an established community relationship ambulance organizations may need to develop a partnership approach with key community champions to establish community ambulance involvement.

The rural communities had a greater sense of confidence in their emergency capability, and therefore their health care, as a result of the RESP-type roles that were examined in the case studies. Rural communities value having access to emergency medical care (Humphreys & Rolley, 1991; Strasser, Harvey & Burley, 1994) and so an increase in emergency capability is highly valued. The additional focus and motivation of an auxiliary in one location suggests that the RESP role can provide a greater sense of purpose to community efforts to support ambulance services.

An ability to partner with communities was a key element of the alternative RESP model, evident in three case studies. This is facilitated if communities have the structures that allow paramedics to access community networks, such as ambulance auxiliaries or community health committees, and if paramedics have the social and networking skills that allow them to develop leadership roles within communities. In Victoria this was also facilitated by a job description that included detailed expectations about community interactions. Inclusion in the position description gives community work more validity and recognition as an extension of paramedic work, thus allowing the paramedic to consider community development as paid work.

A note of caution is required regarding the capacity of communities to support ambulance systems. Not only will the level of support depend on local social and economic factors, but this will no doubt fluctuate as community priorities shift. All health and emergency services see the benefits of 'working with communities' and there will be a limit to community capacity. To avoid 'burn out' from community participants, ambulance organisations should ensure adequate system support from the ambulance service and that the community approach is adequately funded and not seen as a 'free' option.

## Equitable health care for rural communities

The RESP model has the capacity to facilitate a higher quality and more equitable ambulance service for rural communities. This occurred in several of the case studies through an increased use of the full capacities of the ambulance system, and through an increase in the clinical capabilities of the ambulance system. This was not done by expecting a paramedic to attend every case, but through the transfer of knowledge and skills to other health care team members, largely volunteers or casual assistants.

### Capacity and system knowledge

The RESP role increased general community capacity in emergency capabilities. In both Victoria and Tasmania the paramedics were active in providing first aid training to community members. First-aid training raises the overall capacity of the community to prevent and respond quickly to emergency health events and is increasingly considered an important aspect of overall community safety (Emergency Management Australia, 2003).

The RESP role also increased appropriate utilisation of ambulance services at both the community and service provider level in some locations. The data suggested an underutilisation of the ambulance services prior to the RESP role, which interviewees attributed to a rural attitude of 'not wanting to be any trouble' or not understanding the full capability of the ambulance system. Several of the RESP roles focused on community awareness raising, aimed at ensuring people knew the correct number to ring in an emergency. As well, it seems that some paramedics increased the utilisation of the full extent of the ambulance service by promoting the appropriate use of air ambulance and associated retrieval systems. Because the paramedic was knowledgeable about the parameters for air ambulance use, they facilitated the use of air services for eligible patients. In this way the RESP model linked the community and health services more fully with the ambulance capabilities and provided a more equitable service for isolated rural communities.

### Increased clinical capabilities

Volunteers appreciated having paramedic clinical back-up on significant cases; they felt they gained in confidence and skills, and felt less stressed by not having the full burden of responsibility. The increased confidence provided by having a highly trained professional as back-up for significant cases was a major benefit of the model. Volunteers felt more confident attending a case, whereas previously on the way to a job "…there was always that nagging [thought] that we were going to collect something we can't handle…". Volunteers identified how much they learnt by attending cases with a paramedic and how they could model their own care on the way paramedics dealt with cases.

Another advantage of the RESP model was that paramedics were not required to be part of the crew, unless they were filling the roster, creating major cost-benefits in low case-load areas compared to a traditional fully paramedic team. Volunteers operated to the protocol level allowed and appreciated having some cases that they could manage alone, meaning that the more highly trained paramedics did not need to travel to minor cases. Decisions about which cases to attend required a balancing act to ensure that volunteers still had an adequate level of responsibility and satisfying job loads, and that paramedics do not 'take over' to the point where the volunteers have no control. Mostly the paramedics seemed to be aware of this and to manage this well, and it appeared to be more of a potential problem for 'relieving paramedics' who were not embedded into the community building activities and therefore may have attended cases to feel active.

## Viable volunteer teams – recruitment, training and support

The RESP support for rural volunteer teams was an important component of two cases. This data suggests that a suitable RESP role can play a pivotal role in establishing and maintaining sustainable volunteer support systems. Apart from the clinical support already discussed, leadership and management skills combined with training sessions provided volunteers with high levels of support. This in turn generated higher numbers of volunteers and more sustainable volunteer teams in at least one case. In these ways the RESP role can provide the organisational skills and facilitate access to the resources that viable volunteer groups need (Marwell & Oliver, 1993).

### Skills training and recruitment

The data showed that a successful RESP role increased the Services' ability to recruit volunteers. In one site the ambulance auxiliary found that prior to the RESP role:

> *"…it didn't matter how much we appealed or how many advertisements we put in our magazines we couldn't get them. Then the paramedic comes and mate, he is knocking them back."*

In both Tasmania and Victoria volunteer training was an important function of the RESP role, in tandem with the normal training providers. As Australian ambulance providers have joined the Australian Quality Training Framework, the training requirements have increased, with the benefits that qualifications are nationally recognised and competency based (Stone, 2001). While the aim is to ensure organisations meet 'a duty of care' (Howard, 1999) the accompanying increase in training and accreditation requirements has been seen as a deterrent to potential volunteers. However, in many cases a major deterrent was found to be inflexible training and poor training standards (Fahey, Walker & Lennox, 2003), which the RESP role can help prevent. Local, quality training helps the ambulance service to recruit and retain volunteers because they have more confidence and increased satisfaction (Fahey, Walker & Sleigh, 2002). These data clearly show the satisfaction volunteers

found with improved access to training, though the communications skills of the paramedic and the flexibility of the ambulance training processes are also important contextual factors on the quality of training provided.

The training provided to volunteers was appreciated not only by volunteers, but also by the broader community. In one town, community members felt greater confidence as a result of the perceived increased training standards for volunteers.

### Managerial assistance and linking to ambulance organisations

Several RESP roles utilised the paramedic to remove some of the management burden from volunteers. The resourcing of volunteer management and support within volunteer-using organisations is often inadequate (Brudney, 1999) as the 'helping' nature of volunteer labour allows the cost of supporting and involving volunteers within organisations to be overlooked or underestimated (Fahey, 2005). While there needs to be a continued scope for volunteer team members to participate in leadership roles, the organisational policy and service requirements should not become burdensome to those who are likely to be the most committed (Fitch, 1994).

By incorporating volunteer management and leadership responsibilities within the RESP role, support for volunteers was increased. The data showed that the paramedic needed to deal with conflict or poor relationships within volunteer groups, or between volunteer groups and local health providers. In some situations the paramedic was able to deliver fairer rosters, allocate resources evenly and generally resolve disputes. Again, the success of the RESP management and leadership role depended largely on the scope of the role and the social and communication skills of the paramedic.

## Conclusion

The RESP role has the capacity to provide a cost-effective ambulance service model for regional and rural areas. By combining the high level clinical skills of the paramedic with a team of local volunteers, communities will be well covered for complex and acute cases without ambulance services experiencing a high underutilisation of professional staff. For the RESP role 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 for the job. Services also need to adequately resource volunteer training and support as well as ensure suitable communication channels between rural stations and their regional or metropolitan headquarters.

The benefits to health care consumers from the RESP role are an improved access to care for those with emergency needs, and an increased confidence within rural communities that suitable emergency care is available. As well, RESP models can bring a preventative focus to local accident and emergency health care concerns. This is an important benefit for rural communities with their higher mortality rates from accidents (Australian Institute Health Welfare, 2003).

The RESP model provides significant benefits to a largely volunteer service model because it assists in creating more viable volunteer teams. Recruitment and retention appear to improve along with training standards, and conflict decreases when the RESP role takes a leadership approach. The volunteer experience therefore becomes more enjoyable and satisfying as rosters are filled and volunteers feel more confident with the care they can provide, and that experienced back-up is available if needed.

However, these benefits are contingent on the paramedic having good interpersonal and management skills. It is clear from previous studies that a poor set of such skills can create conflict and retention difficulties within volunteer teams (Fahey & Walker, 2002). Currently, leadership and management skills training are not provided to paramedics to assist them in working with volunteers and communities, and therefore RESP-type roles rely on paramedics having a strong set of personal skills in this area. Careful selection for RESP positions and appropriate training will be important prerequisites of a successful RESP role to capture the full extent of benefits.

The RESP role allows paramedics to develop a more complex work role, with scope for leadership in community health services, public policy, and managing volunteer teams. As well the RESP model allows paramedics to works in interdisciplinary teams across the health continuum.

## *3.4 Education and Training*

### Introduction and purpose

The purpose of this chapter is to provide an educational framework for the proposed Rural Expanded Scope of Practice (RESP) model that has emerged from the case study data. The RESP model builds on the concepts of community-volunteer and practitioner models and if it is to be effective and sustainable it will need to be:

- underpinned by a robust educational framework,
- acknowledged as a credible model by ambulance authorities, the profession and communities, and
- recognised as an integral part of mainstream ambulance services.

In the first section, the context of paramedic education and training is explored in the wider environment of health workforce issues, particularly the rural health workforce. These include factors affecting the future supply of and demand for health workers; the efficiency and effectiveness with which the available workforce is deployed; and current proposed reforms to health workforce arrangements, including promotion of more responsive health education and training arrangements, which are currently being assessed by CoAG following an extensive research project undertaken by the Productivity Commission (Productivity Commission 2005a, 2005b, 2005c).

In the second section, a brief historical review of developments in ambulance paramedic education is provided. This includes the move to university-based programs, meaningful change in health education to ensure curriculum measures up to meeting the needs of tomorrow's health professionals, better integration and active learning, and an inter-multi professional practice approach.

In the third section, education and training issues for the RESP model are unpacked through examining the core components of RESP paramedics' roles:

**R**ural community engagement

**E**mergency response

**S**cope of practice extension

**P**rimary health care

In the fourth section, the proposal for a three-tiered RESP education framework is presented. This is based on:

- general educational preparation for the RESP role through an outcome-based approach to undergraduate curriculum design; focused on students attaining required core attributes described in Chapter 3.1; and an inter-multi professional approach through common learning units with other health professional programs;
- postgraduate courses for extended clinical skills, leadership training, and teaching & learning skills; and
- continuing professional education and training for ongoing development.



In summary, the RESP model has a real potential to improve health outcomes and health workforce outcomes in rural and remote areas. It also has the potential to be recognised as a leading innovation and targeted initiative nationally and internationally. However, if it is to be effective and sustainable, it must be underpinned by a robust education framework as well as being supported by the ambulance profession, the industry and rural communities as an integral part of mainstream ambulance services.

## Context of rural paramedic education and training developments

Ambulance jurisdictions in Australia, like most countries around the world, face the challenge of having the workforce they need to provide equitable, accessible, sustainable, timely, safe health care. The issues in common include workforce shortages, mal-distribution, keeping up with changing models of care, and maintaining a culture of continuous improvement and flexibility (Australian Health Ministers Conference, 2004). The key drivers of change include the operating environment with changes in the burden of disease; demographic shifts; new technologies and healthcare; empowered consumers; and resources and capability. It is important that the health workforce education and training system is responsive to changing demands.

Requirements for paramedic education and training are necessarily aligned to the permitted scopes of practice for qualified practitioners. Paramedic scopes of practice should not be seen in isolation and as the recent Productivity Commission health workforce research report reminded us the workforce reform process must recognise linkages across the health and education system "so as to ensure that all of the cogs in the health workforce apparatus are moving in concert" (Productivity Commission, 2005c). The general opinion is that the system is complex, poorly coordinated and insufficiently responsive to changing needs and circumstances.

Current rural health workforce issues include those factors affecting the future supply of and demand for health workers; the efficiency and effectiveness with which the available workforce is deployed; and current proposed reforms to health workforce arrangements, including promotion of more responsive health education and training arrangements, which are currently being assessed.[1]

In its report, the Commission emphasized that there are many positive aspects to health workforce arrangements in rural and remote Australia, which has been an 'incubator' for developing and testing new models of care, expanded scopes of practice and education and training models (Productivity Commission, 2005c).

There is a real potential for the paramedic RESP model to improve health outcomes and health workforce outcomes in rural areas and be recognised as a leading innovation and targeted initiative. It has the potential to:

- encourage a range of health workers to move to or remain in rural and regional areas;
- equip rural paramedics with additional or different skills;
- reduce the risk of 'lock in' for current rural health practitioners;
- extend the knowledge and skills of rural paramedics to other health workers;
- integrate local community involvement with the health care system; and
- combine core ambulance service roles with an integrated public health role.

*1. The Council of Australian Governments (CoAG) is assessing the Productivity Commission's health workforce recommendations*

However, the RESP model must be embedded within education and training programs throughout the paramedic education pathway and not be perceived as an add-on training component. The proposed RESP education and training framework will ensure that the latter does not become the reality.

## Developments in paramedic education

In Australia paramedic education and training programs are provided by a number of ambulance-based state education units and a number of independent higher education institutions. Expectations are changing as ambulance is being challenged to move from a primarily transport model to a more definitive pre-hospital medical treatment, primary health and social care model.

An ambulance education symposium in 1995 led to the establishment of a national Ambulance Education Committee and a second symposium in 2004 affirmed the need for a uniform approach to paramedic education programs. The evolution of ambulance education in the last ten years was described as "dramatic with a move from an essentially skills based approach to a comprehensive tertiary based education system" (Grantham, 2004).

At the 2004 symposium it was clear that there was general acceptance by the industry that some external process of evaluation of paramedic education programs and the quality of graduates of these programs was required to ensure that appropriate standards are maintained and that there is sufficient consistency in training approaches and course content across institutions. A consultancy to establish accreditation guidelines for Australia's university-based education programs has been completed and a trial accreditation and assessment process will be rolled out during 2006. This will be extended to the vocational education and training sector after further consultation.

During 2005, as the Guidelines were being developed, the Productivity Commission's research study released a position paper for discussion and comment (Productivity Commission, 2005b). It proposed a coherent set of improvements to the operation and interaction of the many institutions, processes, regulations and funding mechanisms so as to overcome some systemic impediments to more specific reform measures. It included proposals for an integrated approach to accreditation of courses in the health area, including the establishment of a single national accreditation agency for university-based and postgraduate health workforce education and training using a carefully staged approach (Draft Proposal 6.1). The final report, released in mid January 2006, confirmed these proposals.

The Accreditation Guidelines for the assessment and accreditation of university paramedic programs are an important milestone in the professionalism of the paramedic role. The process of their development has enabled a better understanding of the need for university programs that prepare graduates on the paramedic pathway with a range of attributes relating to knowledge and understanding; skills; and attitudes affecting professional behaviour and to provide an evidence base to underpin practice. They are flexible and based on a set of principles that will accommodate workplace innovation and role redesign over time.

During the past decade there have been meaningful challenges to health education generally as a result of changes in patients' expectations, healthcare delivery, medical knowledge, health care professionals' availability and workload and changes in students' requirements.

Medical Schools have responded to these challenges in a number of ways:

- new curricula incorporating new curriculum themes and different education strategies;
- new learning situations and the use of new tools and aids to learning;
- new methods of assessment; and
- a realisation of the importance of staff development for clinical teachers and ongoing professional development for practitioners.

Paramedic education and training providers must also respond to these challenges to ensure curriculum measures up to meeting the needs of tomorrow's health professionals, better integration and active learning, and an inter-multi professional practice approach.

As health care needs become more complex, delivering effective health care, particularly primary care, requires health professionals to work together in a collaborative manner to meet the needs of patients. Improvement to continuity and coordination of care in practice requires a team-based approach across professions. The introduction of inter professional learning (IPL) opportunities in the education of health professionals is a strategy that has been implemented to produce adaptable and flexible practitioners with the interpersonal skills to work effectively in collaborative teams.

IPL is built on the premise of valuing people's professional experience, knowledge and know how. It is not about creating generic health care workers, nor about bulk teaching, but about inter-professional learning.

## Education and training issues for the RESP Model

The RESP model that has emerged from the case studies builds on the concepts of community-volunteer and practitioner models, combining the strengths of both. Examination of the four core components – rural community engagement, emergency response, scope of practice extension, and primary health care – will identify the education and training issues that need to be addressed.

**Rural community engagement** encompasses extended roles in health and emergency services planning and development and an active role in health education, first aid training and primary health care activities. It will also involve management and training of volunteer ambulance officers and facilitation of community participation. This suggests that the RESP role requires a broad knowledge base in rural health, community development, leadership & management as well as practical skills as an educator, trainer and public speaker, with effective communication skills.

**Emergency response** includes the traditional role of responding to incidents or in support of volunteer and first responder services – the traditional role of rural ambulance services, which requires a comprehensive knowledge of issues facing rural communities and health issues in rural communities. It also requires interaction with all the other emergency services that function in rural Australia, including Police, Fire and State Emergency Services.

**Scope of practice extension** occurs in either the out-of-hospital or institutional settings and entails making use of paramedic skills and knowledge in clinics and hospitals, and occupational settings. This component is an excellent example of the need to recognize the linkages across the health and education system where currently requirements for health workforce education and training are necessarily aligned to the permitted scopes of practice for qualified practitioners in the various occupational groups.

The educational implication for paramedics lies in access to appropriate advanced skills training and the development of new courses such as the proposed Graduate Certificate in Rural and Remote Paramedical Practice (James Cook University). Appropriate postgraduate advanced skills options may well be multi-disciplinary and inter-professional, such as Flinders University's Centre for Remote Health (Alice Springs), which offers a Graduate Certificate/Diploma/Masters pathway in Remote Health Practice (www.crh.flinders.edu.au/education/sh_rhp.htm). This program is multidisciplinary, except for the practice topics which are profession specific, enabling professional practice streams.

**Primary health care** integration will see rural paramedics taking an active role with other health professionals in the provision of primary health care with an emphasis on preventive medicine and health promotion. Specific on-going skills for screening, immunization, suturing and other procedural skills will be obtained through short courses, particularly through organizations such as Divisions of General Practice. As is pointed out in Chapter 3.1, the issue is not whether paramedics should "do" more primary health care, rather what more should be done to maximize the effect.

## Educational implications

Key educational implications arising from these considerations include incorporating into paramedic education concepts of:

- outcomes-based learning;
- community-based health education;
- common learning; and
- effective healthcare teams.

**Outcomes-based learning**

The traditional model of health education begins with the delineation of knowledge fundamental to health, teaching that knowledge, then testing whether students have learned that information. Outcomes-based learning (Harden, 2002) goes in the opposite direction starting with the good-effective health practitioner and working backwards. Curriculum design starts with defining the attributes of the successful graduate, thence determining how you know whether students have attained these outcomes, and then creating learning opportunities that will enable students to achieve them.

**Community-based health education**

Community-based health professional education is an increasingly popular tool and its use reflects the growing importance of community-based practice in the 21st century health system. Community-oriented curricula are based on addressing the health needs of the local community and preparing graduates to work in the community. Worley (2005) has identified four key relationships key to successful community-based medical education that are transferable to the RESP context – the doctor-patient relationship; the university-health service relationship; the government-community relationship, and the personal-professional relationship.

### Common learning approaches

Common learning[2] is the mechanism through which students are enabled to learn about, and assess their ability to:

- respect, understand and support the roles of other professionals involved in health and social care delivery;
- make an effective contribution as an equal member of an inter-professional team;
- understand the changing nature of health and social care roles and boundaries;
- demonstrate a set of knowledge, skills, competencies and attitudes which are common to all professions, and which underpin the delivery of quality patient-client focused services;
- learn from others in the inter-professional team;
- deal with complexity and uncertainty;
- collaborate with other professionals in practice;
- understand stereotyping and professional prejudices and the impact of these on inter-professional working;
- practice in a patient-centred manner.

**Effective health care teams**

A major study by Borrill et al. (2003) found that:

- teams that work well together are more effective and more innovative;
- the clearer the team's objectives, the higher the support of innovation and the more effective is the team in delivering high quality health care;
- multidisciplinary teams that work well together bring together alternative and competing perspectives, which are carefully discussed and lead to better quality decision about patient care;
- where more employees work in a team the death rate is significantly lower.

## RESP education and training framework

To be credible, effective and sustainable, the RESP model will need to be underpinned by a robust educational framework. Examination of the four components suggests a three-tiered framework.

**Tier 1: Undergraduate**

General educational preparation through undergraduate paramedic education programs for the RESP role including:

- an outcomes-based approach to curriculum design focused on students attaining required core attributes described in Chapter 3.1;
- an inter-multi professional approach through inclusion of common learning units with other health professional programs in the curriculum.

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2. *See* **www.commonlearning.net** *for an example of inter professional learning units*

The outcomes-based approach will ensure curriculum through different means to cover effective interpersonal and communication skills, the social and community contexts of health care, health promotion and disease prevention, systems-based practice and so on.

### Tier 2: Postgraduate

Extended skills training through postgraduate courses. Clinical skills through current or planned Graduate Certificates/Diplomas/Master in Emergency Health (Paramedic), Emergency Preparedness and Disaster Medicine, Aero-Medical Retrieval or similar, Graduate Certificate in Rural and Remote Paramedical Practice, Graduate Certificate/Diploma/Master in Remote Health Practice. As well as discipline specific skills such as mental health, teaching and training skills development, management and leadership training.

### Tier 3: Continuing professional education

Ongoing development through continuing professional education modules accredited for quality assurance and professional development by the Australian College of Ambulance Professionals offered by a range of multi professional providers covering primary health care, clinical skills, management and leadership, train the trainer and so forth.

## Summary and conclusions

The RESP model has a real potential to improve health outcomes and health workforce outcomes in rural and remote areas. It also has the potential to be recognised as a leading innovation and targeted initiative nationally and internationally. However, if it is to be effective and sustainable, it must be underpinned by a robust education framework as well as being supported by the ambulance profession, the industry, and rural communities as an integral part of mainstream ambulance services.

Through adoption of the three-tiered educational framework, the RESP model will be well embedded into the paramedic education pathway.

The Council of Ambulance Authorities Inc. in collaboration with the Australian College of Ambulance Professionals and Australian Universities offering paramedic education courses should consider establishing a RESP Centre of Excellence to provide much needed research and postgraduate courses in this important area of pre-hospital care in rural areas. Ongoing effort to manage and facilitate change in paramedic education and training models and to provide for a systemic and integrated consideration of opportunities to further improve is required. The acknowledgement of the importance of the rural paramedic through this commissioned research is an excellent start. In the words of one rural paramedic:

> *It wouldn't take much to do, it's an education thing … if you have to have all ambulance people trained to a degree level, or even more trained to a doctorate level, then so be it. It really isn't that hard … But to make that level useful we need to have some authority and consistent back up.*

Recognition of the RESP model through a defined educational framework is an example of a positive response by ambulance industry and the profession to changing health care needs and requirements.



# 4. Conclusions

This research project aimed to identify Australian and international trends in the evolving role of paramedics by studying existing innovations in rural Australia. The project was born from the view that expanding paramedics' scope of practice offers the potential to improve patient care and the general health of the community. New healthcare models with flexible workforce roles are clearly needed in rural Australia and an expanded-scope paramedic role is a valuable innovation.

The case studies described many of the activities that a proposed rural expanded scope of practice model would undertake in the traditional out-of-hospital setting, in institutions and in the wider community.

## Proposed Model

The findings confirm that paramedics are increasingly becoming the first line primary health care providers in many small rural communities as other health care services contract through rationalisation and centralisation. The suggested rural expanded scope of practice model described here is built around three domains of practice that will have a major impact on the profession and way ambulance services are delivered in the future:

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

We have called our model the Rural Expanded Scope of Practice (RESP) Model and its practitioners will undertake the four core activities in this role. These are described as:

**R**ural community engagement

**E**mergency response

**S**cope of practice extension

**P**rimary health care

The model combines the strengths of the established community-volunteer model and the emerging practitioner model. This model will be most useful in rural settings outside major regional centres where it may be more cost-effective than traditional urban models, while promising improved access for people in rural communities. Its key features are:

- Local community involvement and integration with the health system across the whole continuum of care, from public health activities to prevent the incident, through to response, treatment and transport, and then further care during the recovery phase.
- Provision of both an emergency 'safety-net' system and an advanced clinical care system that is able to respond adequately to emergency medical needs.
- Combination of core ambulance service roles with an integrated public health role that is closely linked to the broader health system.
- 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-organized and high quality care.

## Strategic direction

Greater integration of paramedics with rural communities and with the health system will require ambulance authorities and the profession itself take an active role in the process of building partnerships and forming alliances. The collaborative aspect of the 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 offer a range of points for consideration in the areas of: policy environment; role definition, recognition and support; community engagement; and education and training.

### 1. Policy Environment

- Sufficient resources need to be made available to ensure that ambulance services are able to meet the needs and expectations of rural communities on an equitable basis.
- The organizational structure and culture of rural ambulance services needs to evolve in a way that will accommodate a more independent paramedic profession that is integrated into the health system and their local communities.
- Consideration be given to conducting further trials and evaluations of the model and its variations in each of the States, while continuing to assess, support and develop the pilot projects described in this study.

### 2. Role Definition, Recognition and Support

- The model needs to be formally defined through position descriptions and the desirable attributes.
- Support for the model from the profession, industry and rural communities as an integral part of mainstream ambulance services is crucial to success.
- Efforts be made to build a strong network of multidisciplinary practitioners who will support for the model in rural Australia.
- Careful selection processes for RESP positions and availability of appropriate training are important prerequisites for success.
- Technology, such as Telehealth, needs to be utilised to support paramedics making clinical decisions either in the out-of-hospital or in-hospital environment.
- The skills and responsibilities of the RESP paramedics need to be recognised with appropriate remuneration and conditions of employment.

### 3. Community Engagement

- The introduction of the RESP Model needs to be based on the values, priorities and capacity of the communities they serve.
- To provide benefits to communities and volunteers, community interaction goals need to be clearly defined and paramedics need to have the appropriate leadership and networking skills.
- Volunteer training and support needs to be adequately resourced and suitable communication channels established between rural stations and regional offices.

### 4. Education and Training

- The knowledge and skill set described herein should form the basis of a curriculum for a Rural Expanded Scope of Practice paramedic.
- A robust education framework should underpin the model, with adoption of a three-tiered educational framework at undergraduate, post-graduate and continuing education levels.
- Geographically specific skills and procedures may be developed as part of continuing education programs.
- Continuing research and evaluation of current and future education programs need to be conducted to ensure that programs meet the needs of RESP paramedics, communities and the health system.
- Give consideration to the establishment a Rural Expanded Scope of Practice Centre of Excellence to provide research and postgraduate courses in this specialised area of pre-hospital care.

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