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Multidisciplinary Practice in Action: The Rural Paramedic – It's Not Only Lights and Sirens

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ABSTRACT

Objectives

This paper examines the Tasmanian portion of a four state study commissioned by the Australian Council of Ambulance Authorities in order to examine the expanded scope of practice for Australian rural paramedics. The objectives of this paper were to describe the expanded role for the rural paramedic on the East Coast of Tasmania and determine what factors facilitate this role.

Methods

This study uses qualitative methods. Three sources of data were used for this study: a) semi-structured interviews with key informants; b) direct observation of key processes and events, and c) review of documents describing the paramedic role and required organisational and educational support. The semi-structured interviews included questions relating to the role of the paramedic, involvement with other health disciplines, and interactions within the general community.

Findings

The study revealed how paramedics on the East Coast of Tasmania have developed a multidisciplinary and multifaceted approach to health care. Emergency care does not end at the hospital doorstep and involves co-operation between paramedics and hospital staff in ongoing care. Doctors and other health professionals who have previously been involved in after hours call outs, training of volunteer ambulance personnel are now free from these additional and often time-consuming tasks. Paramedics have been welcomed as part of the health care team in the area and have been responsible for development of effective working relationships with hospital staff and doctors, volunteers and community members. An important part of these relationships is the health education provided by paramedics.

Conclusion

Emergency response in rural areas is only a small part of paramedic practice. This study has identified elements of rural paramedic practice that highlight the importance of a multidisciplinary and community based response to patient care in rural areas namely

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community involvement, organisational support, professional support, and appropriate education and training. Much of these are rooted in a footing of informality. The move from informality to a more formal framework will perhaps enable rural paramedic practice to emerge as a discipline in its own right, as an integral part of a rural multidisciplinary health care team.

Keywords: *ambulance; community emergency health; emergency medical services; hospital; multidiscipline; paramedic education; paramedics; rural health; rural paramedics.*

Introduction

An ambulance rushing past with lights and sirens blazing is a sight with which we are all familiar. The curious amongst us could ask who are they going to, what sort of emergency is being attended? However, other questions also rise. What else is it that paramedics do when they are not attending emergency cases? Do they work in isolation or fit in with other health professionals? What about rural areas - is there enough to do?

In 2006 the work of the rural paramedic was examined in a four state study commissioned by the Australian Council of Ambulance Authorities and revealed an expanded scope of practice, working with other health professionals, and interactions with communities and volunteers.¹

One of the sites in this study was the East Coast of Tasmania. With approximately 4000 sq km this is an area of great variation in geography, from beachside townships to mountain ranges and farmland. Populations vary greatly in holiday periods, with townships such as Coles Bay having a growth from a permanent residency of around 100 to almost 5000 visitors per day.² The main local hospital at St Helens consists of three accident and emergency beds and ten general beds, which are mainly for general nursing types of cases. All other emergency cases are initially dealt with then transported either by air or road to major hospitals, the closest of which is at Launceston, nearly 200km away. A smaller hospital at St. Marys is approximately 20 minutes by road further inland from St Helens, has twenty-four hour staffing but no accident and emergency capability.

In 1997, medical services to the region were in a state of flux. The Tasmanian Government had proposed the closure of St Marys Hospital, whilst simultaneously a key local general practitioner in St Helens was taking a well-deserved break from practice leaving a significant gap in medical services. Existing ambulance services consisted of a volunteer Red Cross service at St Marys and Tasmanian Ambulance Service volunteers at St Helens, with other volunteer units further south. Because of these issues, the government pledged a dedicated and innovative intensive care paramedical service to the region.

Differing to other rural paramedic services in Tasmania that were attached to specific volunteer units, the East Coast model was to be staffed by advanced life support paramedics not attached with any particular volunteer unit, but providing backup for, and being backed up by volunteer ambulance units at several locations on the East Coast.

This paper examines the Tasmanian portion of the four state study commissioned by the Australian Council of Ambulance Authorities with the objective being to describe the expanded scope of practice for the rural paramedic on the East Coast of Tasmania and determine what factors facilitate this role.

Methods

This paper has been drawn from one site of a multi-site study which examined the extended paramedic roles practiced within rural Australia.¹ This study uses qualitative methods to explore the effect of the introduction of this service. Ethics approval for the overseeing project has approval through Charles Sturt University's Ethics in Human Research Committee.

The Tasmanian site gained nomination from authorities from the Tasmanian Ambulance Service as being one of particular innovation. There were three sources of data: semi-structured interviews with key informants; observation of key processes and events; and review of documentation describing the paramedic role and required organisational and educational support. This triangulation of data guarded against interviewer bias or inaccuracy.³

Semi structured interviews explored what paramedics do in a rural community, including how they interact with other health professionals, health consumers, and community members. A main feature of this study was that it concentrated on field research gathering the views of practicing paramedics and health professionals. In all, there were 17 interviews undertaken (3 local general practitioners, 5 volunteer ambulance officers, 5 paramedics, 1 Director of Nursing, 1 radiographer, 1 police officer, and 1 local council employee). General observation and informal discussions with various other staff also took place.

Analysis was undertaken using deductive and iterative processes following completion of data collection.

Results

Emergency response – not all lights and sirens

Without exception, the primary role of the East Coast Paramedics is first response to emergency cases. With an average of 37 emergency cases per month in 2004⁴ the question arises as to what the paramedics do with the time when they are not responding to emergencies. Deeper examination revealed that emergency response was not only about 'lights and sirens', with the paramedic role encompassing several intertwined layers.

Common cases attended in the area are road accidents, trauma, cardiac, respiratory, and falls at home.⁴ Once transported to hospital however, the limited numbers of nurses and doctors being on call for hospital emergencies, result in paramedics continuing patient care in the hospitals. It is here that the most obvious displays of multidisciplinary practice take place. This is not simply a drop off and run emergency service, with paramedic care extending from assistance with nursing duties to helping radiology staff manage patients.

"The majority will stay and assist at the hospital, especially after hours, there is a continuation of care." (Director of Nursing)

"The paramedics here offer good assistance....They accept the patient as theirs and will assist and help organise everything to do with that patient" (Radiographer)

Could this expansion of practice be an impost on other professions? Any suggestions of unwanted boundary crossing or task substitution did not appear during the interviews. One of the reasons for this may be that as the placement of full time paramedics in the area was in

response to the need to ease the workload of doctors who previously had to attend to their local clinic, support the hospital, and respond to emergencies. To the local doctors having a paramedic in the region was a blessing. They were no longer required to attend when ambulance volunteers required backup, their role in volunteer and community health education was reduced, and they could entrust patient care to competent paramedical professionals, both at the scene and in the emergency department prior to their own arrival.

“We used to be in the role the paramedics do now.” (Doctor)

“I actually think it is a positive thing for the whole community, because if ...a doctor isn't comfortable with emergency type situations like having to intubate or defibrillate, or all that sort of thing, the paramedic can.” (Doctor)

The emergency response aspect itself displayed interesting tangents. One of the paramedics commented that their presence might have increased emergency call outs.

“The paramedics have probably increased the workload in the area. Previously the community may have been reluctant to call an ambulance because they knew they were just getting volunteers.” (Paramedic)

This was not a reflection on the quality of volunteers, but a comment on the faith the community had in the paramedics as health professionals. The degree to which this respect had developed appears in another comment from a paramedic.

“The whole neighbourhood will drop in just for a dressing change! Even my mail has been addressed to (name removed) the Paramedic! 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. It really stuffed them up when I changed address!” (Paramedic)

Local relationships – the importance of morning tea!

What appeared to be an initial flippant remark during the first interview conducted, suggested morning tea as an important event in the day of paramedics and hospital staff. When the same remark was made in several interviews it became clear that ‘morning tea’ was an important means of establishing and building on community contacts, in addition to being an informal way of bringing together several health disciplines to discuss ongoing patient care.

These ‘morning tea’ sessions also went toward building harmonious relationships amongst volunteers and hospital staff. This was especially important in those locations where the rapport between hospital staff and volunteers in an earlier report had been previously described as “atrocious”⁵.

Whilst it would have been easy to sit back and wait for the emergency cases to come in the paramedics set about establishing themselves as respected professionals within the community. The *whole neighbourhood dropping in for a dressing change* does not happen overnight. Paramedics became involved in training of volunteers and primary health care, offering health education to several community groups, from cub scouts to elderly citizens.

Several people, including the paramedics themselves, did not expect the degree of community involvement by the paramedics on the East Coast.

“I didn't appreciate how much community involvement there would be. Have to be careful not to burn out, can only do so much, and you can make a rod for your own back.” (Paramedic)

This community involvement grew to such an extent that people in need of medical attention would even report directly to the paramedics' homes before visiting hospital or calling for an ambulance.

Respect for the new paramedics grew from local media reports⁶, interactions with other health professionals, and through informal social activities such as involvement in the tennis club. The paramedics were willing to put in a large degree of their own time to participate in community events such as local school events or meetings with the local road safety task force.

Community involvement and respect has developed to such a stage that all those interviewed knew the paramedics by name and were aware of the great deal of non re-numerated work put in outside of normal working hours. They said that absence of paramedics would result in a large gap.

A significant example of primary health care exhibits in the establishment of a community health care centre in St Helens. One of the paramedics was instrumental in recognising a need for greater presence of ancillary health services such as drug and alcohol services, social work, dietician, podiatry, and physiotherapy. The paramedic was a major force in the establishment of the Break O' Day Health Resource Association (BODHRA).

Extended paramedic role – the flow on effect

“Where would they (paramedics) fit the time in? They are on call twenty four hours a day when they are working, what else would you expect them to do?” (Local Council Employee)

Even with high levels of community involvement and working on call, when looking toward the future, paramedics saw opportunities for further extension of their role. Indeed, direction of the most passionate interview responses from paramedics and doctors alike were around a more comprehensive management of critically ill patients. With rural paramedics trained to higher levels of sedation, airway maintenance and critical care the need to wait several hours for a medical retrieval team to be organised and the patient to get to a more appropriate medical facility could be negated. This type of extended role appears with conditions. All paramedics mentioned the crucial importance of appropriate and well-designed education and training.

Whilst paramedics and doctors expressed a desire for a further extension in critical care skills, it was more likely that the simple introduction of paramedics to the region had resulted in an extended scope of practice compared to the basic life service support that had previously been available. Treatment of cases such as a hypoglycaemic patient could now involve correct assessment and home management whereas previously a call out for the local general practitioner would have resulted, or the patient transported by volunteers to hospital.

“Like last night. We had a diabetic patient. Diabetics used to have to go to the hospital and the doctor called in. The paramedic did blood sugar levels and gave some treatment so the patient could remain at home.....the same with road accidents. Previously everyone had to go

to hospital but now the paramedic can decide whether a person needs to go to hospital.”
(Volunteer)

Interestingly the example of a hypoglycaemic patient has been used to provide evidence for the concept of paramedic ‘treat and release’ protocols⁷, a suggested central element in extended scope of paramedic practice in the USA and UK^{8,9}.

Paramedical presence on the East Coast has also resulted in a transfer of skills to volunteers. Comments from volunteers revealed that despite training in procedures such as setting up intravenous fluids, they were previously unable to practice skills because no qualified officer was present to supervise them.

“Before, we used to hand the patient onto the paramedics from town and the paramedic would go on with the patient so we wouldn’t see anyone cannulated or any advanced care. Now it is better because our skills have become more advanced by being able to help out more.” (Volunteer)

One volunteer expressed a word of caution though. Because of low caseload, it was easy for the paramedic to take over where volunteers were more than capable of handling certain cases. This was probably more the case with relief paramedics, however did lead to the consideration of another aspect of extended scope of practice - the ability to allocate appropriate resources.

“Feel 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.” (Volunteer)

In addition to an expanded scope of practice for volunteers, other health professionals such as nurses, doctors and ancillary staff participated in the regular education sessions conducted by the paramedics. The sessions covered emergency skills such as CPR and intubation.

“They [paramedics] certainly increase education skills in acute and emergency [care]in the hospital setting, where rural people [health professionals] find it hard to maintain certain skills.” (Doctor)

Using these education sessions paramedics have been able to assimilate their knowledge of critical care with that of other health professionals so that several professions gain from the qualifications and experiences of others. The paramedic has evolved within multidisciplinary practice as an emergency care provider and as a health educator.

Discussion

Previous studies concerning paramedical practice in rural areas have often had as a focus how rural practitioners are not as experienced in certain skills such as intubation^{10, 11} or have less exposure to certain patients such as paediatrics^{12,13} compared to their urban counterparts. Additionally there are studies with more intuitive conclusions such as longer transport times in rural areas¹⁴⁻¹⁶. More recently in Australia, a more concise body of work on rural ambulance practice has been developed and the important contribution by volunteer ambulance personnel has also been recognised.^{1,16-21}

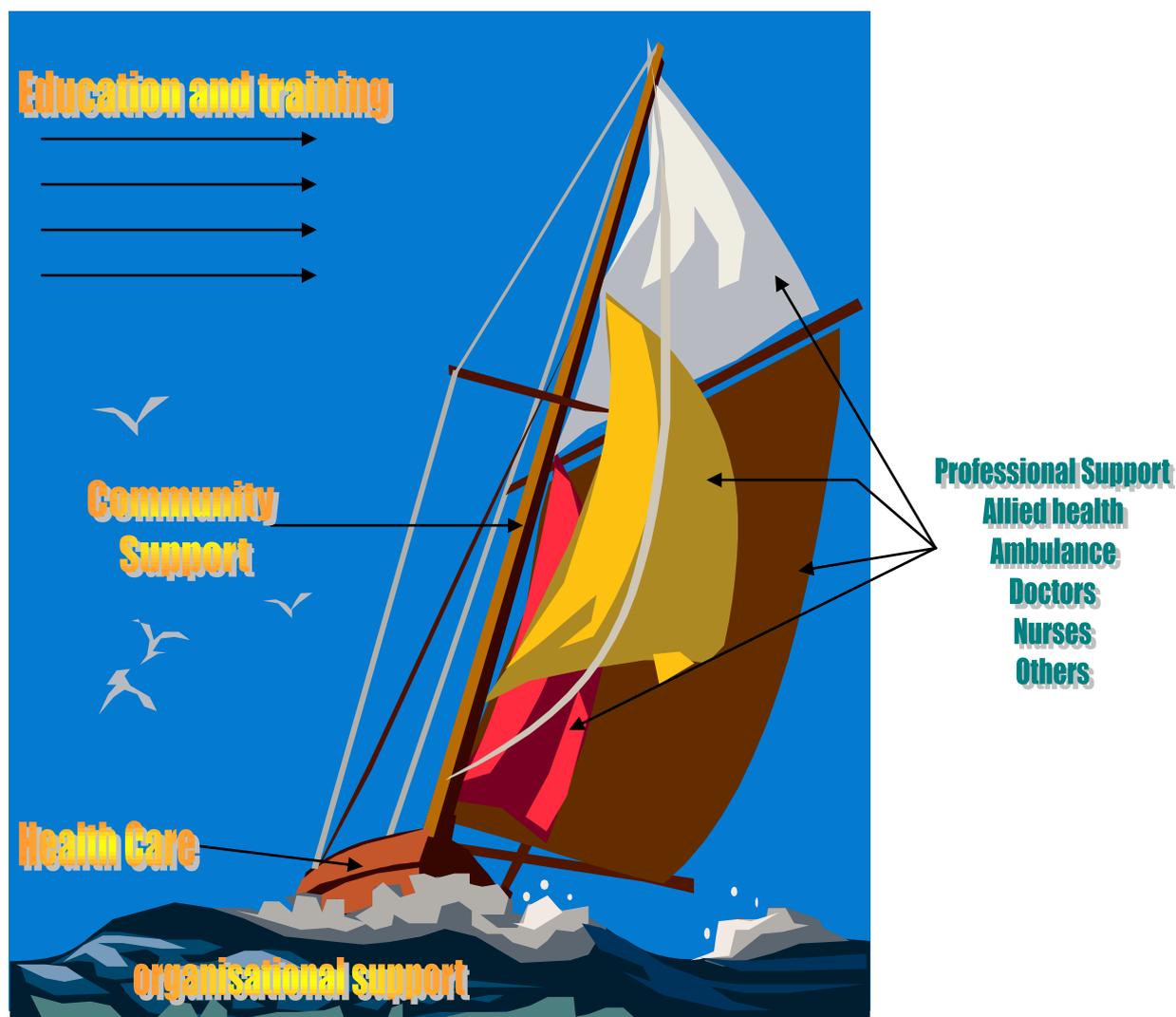
Building upon themes established in these Australian studies and conducted as part of a new study into rural paramedical practice¹ the East Coast case study has revealed that the rural paramedic, adopting a strong multidisciplinary approach to health care should be thought of in terms of more than emergency response alone.

What emerges in this multidisciplinary study is an extended role for paramedic practice reaching beyond specific skills or task substitution. The changes in roles and required paramedic attributes are evident at several levels, including:

- Community involvement
- Organisational support
- Professional support
- Education and training

In a visual analogy, these elements (COPE) represent as a sailboat (Figure 1), the boat itself being delivery of health care, sailing to meet individual patient requirements.

Figure 1: Elements of multidisciplinary practice - COPE
Community support, Organisational support, Professional Support, Education and Training



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Consistent with previous Australian based research^{1,16-22} a vital component of rural health care is community support and involvement, represented here by the mast. The paramedic system on the East Coast developed during a climate of change with a community having had a hospital removed and replaced by a paramedical service. It took a great deal of work for the paramedics to establish themselves as respected health professionals and valuable community members but, even following a reversal of the decision to close this local hospital it would be impossible now to remove the paramedics from the area. A mast needs strength however, and the impact this community involvement has on the paramedic is one issue not revealed in this study and is worthy of further research.

Just as the different sails on a boat perform different tasks, various disciplines can work individually or together, to achieve the most effective outcome. The East Coast paramedics do not just drop off patients and run, they help with patients where possible and appropriate in the hospital environment. The morning cuppa even has undertones of informal and co-operative patient care planning amongst all professions. This informal planning is mirrored in the views of the Royal Australasian College of Physicians (RACP) where the concept of sharing implementation of health care plans, specific tasks and working within community based teams is seen as accepted and necessary practice.²³ The formalising of the 'morning cuppa' planning may help cement the rural paramedic as a true member of a multidisciplinary team.

Of course, the tide on which rural health flows should be favourable and here appears the importance of organisational support. Successful rural practice will avoid the path taken by the Paramedical Expanded Emergency Medical Program initiated in New Mexico in the early 1990's which listed lack of support as a main reason for the program's failure.²⁴ In order for a multidisciplinary approach to rural health care, vision should extend to elicit support from multiple organisations. Organisational bodies will require accurate information based on appropriate research. The Tasmania East Coast study relies on co-operation of local general practitioners (GPs) and further enquiry is required to determine how other GPs and health care staff will react to similar models of practice in other areas. Adopting a multidisciplinary approach, even with all 'sails' working in synergy, can be slow going if the 'tide' is going in the opposite direction.

Linked with organisational support is education and training. Just as tides can both aid or impede, without the 'winds' of progress health care is not going anywhere. Health professionals recognise the needs and the benefits of informal training with each other, such as paramedics training nurses or doctors in emergency care. The appreciation of informal education sessions in the East Coast study duplicates findings from formal introduction of interdisciplinary training and education.²⁵⁻³⁰ There is a need to ensure that each discipline has appropriate education and training relevant to the context of work practice. Given the findings of this current paper, we may ask how well rural paramedics will cope with critical care skills if multidisciplinary and community based scope of practice is expanded. With identification of required skills and establishment of training strategies it may be possible to gain the organisational support needed to approve and appropriately manage more advanced critical care skills.

In line with formalisation of the activities of rural nursing,³¹⁻³⁶ similar actions are now emerging for rural paramedics. The New South Wales Ambulance Rural Plan (2006) states the need for support of health related research and development with identification of geographical packages for rural areas.³⁷ From Queensland comes a comprehensive examination of several models of extended paramedical health care with a view to informing

development of specific rural curriculum,^{38,39} and the Australian College of Ambulance Professionals is currently investigating the benefits of paramedic regulation with invitations to all members for thoughts on how regulation may proceed.⁴⁰ This current study is a consequence of a larger Australian study commissioned by the Australian Council of Ambulance Authorities into the expanded scope of practice for rural paramedics¹, and during the process of conducting this present study, a postgraduate qualification in rural paramedical practice has been established at James Cook University.⁴¹

Although similar elements of multidisciplinary and community based response appear across the four states in the Australian Council of Ambulance Authorities study, the expanded role of the rural paramedic will require further investigation. This paper raises questions as to how well the rural paramedic manages with high levels of community involvement, whether community based and multidisciplinary roles will be at the expense of critical care roles, and how well rural GPs will accept expanding paramedic roles.

Several ambulance authorities are making promising moves and affording recognition to the role of rural paramedics beyond that of emergency responders.

Conclusion

Whilst it is easy to think of an ambulance providing 'lights and sirens' response to medical and traumatic emergencies, the East Coast study has identified elements of paramedic practice that highlight the importance of a multidisciplinary and community based response to patient care in rural areas namely: community involvement, organisational support, professional support, and appropriate education and training. Much of these are rooted in a footing of informality. The move from informality to a more formal framework will perhaps enable rural paramedic practice to emerge as a discipline in its own right, as an integral part of a rural multidisciplinary health care team.

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