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The Role of the Paramedic Practitioner in the UK

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Abstract

The 'Paramedic Practitioner' role has developed against a background of change in primary care service provision, apparently resulting in an increasing utilisation of emergency ambulance services. This presents opportunities to extend the scope of practice of paramedics and other health professionals in the diagnosis and management of patients with minor illnesses and injuries. Such patients commonly present via calls to traditional emergency numbers (999) or are referred from other unscheduled care agencies. Paramedic practitioners can reduce the number of patients inappropriately transported to hospital by approximately half, thus meeting an NHS aim of 'treating the right patients in the right place at the right time'. Other opportunities exist in the form of extended roles in critical care and the management of the chronically ill in the community.

Currently, a number of pilot programmes exist but vary considerably with respect to type and duration of training, permitted scope of practice, and even the job title of these new practitioners. To be successful, these major changes in the role of ambulance professionals will require the paramedic profession to take leadership through its own professional body (the British Paramedic Association (BPA) in the establishment of defined standards of practice. A shift from vocational training to university-based education will be necessary to meet the intellectual demands of the autonomous management of these patient populations. Uniformity of job title and legal restrictions on its use are also required.

These new opportunities for practice will offer a structured clinical career for ambulance professionals for the first time. The BPA has proposed that Emergency Medical Technicians will have a university Certificate; paramedics a university Diploma; paramedic practitioners an Honours Degree; and advanced paramedic practitioners a Masters Degree. Consultant paramedics holding PhDs will support their peers in furthering professional practice. The ambulance profession is coming of age...

Keywords

extended role; out-of-hours; paramedic; primary care; unscheduled care

Background

Weaknesses in the provision of primary care services have been emerging for some time. In 1997 it was estimated that there were 1,000 GP vacancies in the UK.¹ Half of currently qualified doctors are GPs, but only 32% of UK medical graduates enter this speciality,² and recruitment is particularly difficult in urban areas.³ Since the introduction of the new GP

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contract it has been suggested that most GPs will opt out of out-of-hours care.⁴ However, as long ago as 1994, it was reported that GP deputising services were often unable to cope with demand,⁵ which has continued to rise over the ensuing 11 years. Whilst a link between these changes in primary health care and rising demand for emergency ambulance services has never been demonstrated empirically, it would seem to defy common sense to suggest that this association does not exist.

UK 999 call volumes are rising by 8% per annum.⁶ However, many of these patients could potentially be better managed outside of the hospital system as 50% of 999 patients admitted to Emergency Departments are discharged without significant treatment or referral.^{7,8} The introduction of differential responses to Category C patients (the lowest triage category for 999 calls) won't fix this problem, since these are likely to equate to fewer than 13% of 999 demand.⁹ The priority dispatch systems used in the UK do not accurately identify patients with minor problems.¹⁰ Further, NHS Direct (a national nurse-led telephone advice service) has been found to be ineffective at diverting calls away from the ambulance service and emergency departments.¹¹ This is not an intrinsic fault of telephone triage systems themselves, since these are designed to be more sensitive to high priority rather than low priority calls. This helps to maximise patient safety, since telephone prioritisation systems must rely on limited information obtained from an untrained caller interpreted by a clinician who cannot see the patient.

The unmet need produced by changes in primary care service provision and increasing ambulance demand offer paramedic practitioners the opportunity to undertake cross-boundary working to help provide patients with the right care at the first point of contact in a number of settings, including but not limited to 999 calls, emergency departments, minor injuries units, walk-in centres, GP surgeries, and out-of-hours services.

Taking Healthcare to the Patient

A recent consultation document (*Taking Healthcare to the Patient*) developed by an advisory committee to the Department of Health has recommended sweeping changes to the way ambulance services in the UK operate.¹² In addition to expanding the scope of practice of ambulance services and their staff to encompass support to primary care, community walk-in centres, and health promotion and education, these recommendations focus on providing more appropriate care to current users of the 999 and unscheduled care services. One change suggested to facilitate this is an increase in the use of telephone advice and referral without the dispatch of any responders, necessitating the presence of advisers in dispatch centres with a higher level of clinical training. Perhaps most significantly, the report recommends reducing the current number of ambulances and replacing these with single-manned vehicles, staffed by paramedics (and potentially other health professionals) with extended training in the diagnosis, management, and, where necessary, referral of patients with minor injuries and illnesses. This strategy has the specific aim of treating and discharging far more patients in the community and dramatically reducing the number of ambulance transports to Emergency Departments. The consultation document makes 70 recommendations. Its key proposals relating to the management of non-emergency patients accessing the 999 system or unscheduled care services are summarised in Box 1.

- Greater use of telephone advice by clinically trained call takers
- Increased working with GPs and Primary Care Centres
- Patient held records
- Planned patient assessments (conducted in the home at the request of a GP)
- Participation in health promotion / education
- Improved trauma care
- Better provision of analgesia
- Improved integration between emergency and primary care services
- Major review of ambulance education with a move to Higher Education Institutions
- Greater opportunities for care in the community, including more 'treat and leave' and referrals

Box 1: Key recommendations from *Taking Healthcare to the Patient*¹²

Example programmes

The East Anglian Ambulance Service has introduced two complimentary schemes. Their 'Emergency Care Practitioners' undertake an educational programme consisting of eight weeks full-time academic learning plus 10 weeks in supervised practice. The emphasis is placed on a multi-disciplinary, multi-agency approach with a primary care focus, drawing on evidence-based and reflective practice. A graduate of the scheme suggested that

*"the emergency care practitioner occupies the space between the general practitioner, the nurse, and the paramedic"*¹³

East Anglia also has a 'Community Paramedic' programme.¹⁴ This incorporates 45 paramedics working from GP surgeries and supporting primary care teams that undertake scheduled and unscheduled home visits and arrange admission where necessary. They also see acute walk-in patients, participate in clinics, and respond to 999 calls, and undertake 12-lead ECG interpretation and thrombolysis.

In Sheffield, 'Paramedic Practitioner' training is focused on patient assessment and social care and consists of three weeks theory, and 45 days of clinical practice, including placements in minor injuries units, emergency departments, falls clinics, and with community care services. Skills taught include wound care and suturing; musculo-skeletal, neurological, cardiovascular, respiratory, and ENT systems examination; requesting X-rays; and making referrals to GPs, district nurses, and community social services. Patient Group Directions are provided for simple analgesics, antibiotics, and tetanus toxoid. Paramedic Practitioners are targeted at 999 patients aged over 60 years with either a minor injury (defined as wounds, burns, musculo-skeletal injury, or head injury) or a minor illness (falls, blackouts, or epistaxis). At the schemes inception, it was estimated that 25 – 50% of patients would be treated at home.¹⁵

'Emergency Care Practitioners' (ECPs) in the West Country Ambulance Service undertake a multi-professional Bachelor of Science in Emergency Care, which includes competencies based on those developed by the Higher Education Ambulance Development Group. Their working time is distributed equally between minor injuries units and ambulances in both rural and urban areas. Researchers compared ECP report forms (n=170) with those of 'standard'

paramedics (n=331) and determined that 48/170 (28%) of the ECPs patients were treated on scene versus 60/331 (18%) of the paramedics. They also reported key themes from stakeholder interviews and reflective reports indicated that ECPs had a beneficial impact on deployment of resources, improved decision-making and leadership skills, improved inter-agency collaboration, and improved care through immediate treatment and / or referral.¹⁶

In Wales a pilot scheme has been established to evaluate an 'Advanced Paramedic Practitioner' (APP) programme.¹⁷ Five paramedics who had already graduated with a Bachelor of Science with Honours (BSc (Hons)) in Pre-hospital Care were selected to undertake a multi-disciplinary MSc in Advanced Clinical Practice. This course, which aimed to develop autonomous practitioners, included context-specific clinical assessment and therapy modules and extended clinical attachments to General Practice surgeries and Emergency, Coronary Care, Obstetrics, and Paediatrics departments.

Following a year of full-time education, the APPs provided a 24-hour service to a single Primary Care Trust (PCT) area (PCTs are statutory primary health service bodies with both purchasing and providing responsibilities. At the time of writing, they typically cover an area the size of a UK county or large town). The aims of the scheme were to reduce the number of unnecessary ambulance transports to Emergency Departments; target patients to the most appropriate health or social services provider at first contact; increase patient satisfaction; preserve emergency ambulances and Emergency Departments for life-threatening and serious clinical conditions; and to contribute to the development of new out-of-hours primary care services. New working practices introduced are listed in Box 2.

- The treatment of appropriate 999 patients at home followed by discharge with or without further referral;
- The identification of patients suitable for delayed hospital admission;
- Use of alternative forms of transport, including non-emergency ambulances;
- Direct referral by APPs to the most appropriate health or social service provider;
- Accepting GP requests for home visits to assess patients for whom a 999 ambulance may otherwise have been requested

Box 2: New working practices introduced with a pilot APP programme

During the first year of operation, the PPs undertook ongoing education, with the aim of completing their MSc studies. Clinical governance included the appointment of individual GP mentors and regular clinical supervision with a GP trainer. The project is currently being formally evaluated for safety and efficacy (by examining outcome data), and patient and stakeholder acceptability.

In the first six months of the operational phase of the project, APPs responded to approximately 25% of the 999 calls received (n=635) in the PCT area, of which 292/635 (46%) were treated and discharged at the scene; 75/635 (12%) were re-graded to non-emergency transport; and 34/635 (5%) were admitted to a destination other than an Emergency Department. Overall, the treatment or admission pathway was amended for 401/635 (63%) of patients seen by Advanced Paramedic Practitioners.

It has been widely proposed that Paramedic Practitioners and Emergency Care Practitioners should be sent only to category C (low priority) 999 calls. However, given the relatively large

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proportion of non-serious 999 calls that are inevitably over-triaged at dispatch to category A or B for safety reasons, it was decided that the APPs in Wales should be sent to most types of emergency calls regardless of categorisation. The only calls excluded were those where transport to hospital seemed likely or inevitable – for example cardiac arrests and serious road accidents. Analysis of the calls attended has demonstrated that this strategy is sound, since the actual number of patients treated and discharged was highest for patients falling within category A – the highest dispatch triage category for 999 calls (Table 1).

	Number of calls (% of all 999 calls)			
	Category A	Category B	Category C	All 999 calls
Number of calls attended	289 (46%)	210 (33%)	136 (21%)	635 (100%)
Number treated and discharged	121 (19%)	103 (16%)	68 (11%)	292 (46%)
Number of non-emergency transports	16 (2%)	30 (5%)	29 (5%)	75 (12%)
Number of direct referrals for admission (not A & E)	17 (3%)	9 (1%)	8 (1%)	34 (5%)
Total number of patients with altered care pathways	154 (24%)	142 (22%)	105 (17%)	401 (63%)

Table 1: Patients with altered care pathways by prioritisation category as a proportion of total 999 calls

Category A calls make up the highest proportion of 999 calls attended, and include the highest proportion of all 999 calls treated and discharged by APPs ($121/289 = 42\%$). This emphasises the value of sending advanced practitioners with extended patient assessment skills to all categories of 999 call, not just those triaged to a low priority. However, it should be noted that $135/289$ (47%) of Category A patients still required transfer to hospital by emergency ambulance, suggesting they had a time critical or major clinical problem. This implies that advanced practitioners sent to the whole spectrum of 999 calls must have paramedic skills in order to manage both this sub-group of patients in addition to those with non-urgent problems. Whilst this recommendation should by no means exclude nurses from entering the Emergency Care Practitioner profession it does suggest that those doing so should be cross-trained as paramedics.

Challenges

This paper has presented details of only a small proportion of the many different initiatives around the UK with similar aims. Unfortunately however, little evidence or even anecdotal descriptions of these new initiatives have been published. Nevertheless it can be seen that, despite the similarity of purpose of each project described in this paper, there is considerable variation in the length, content, and academic level of the associated educational programmes. In order to maintain professionalism and high quality patient care, there is clearly a need to standardise the education and competencies of practitioners working in these advanced roles, although it may be appropriate to have more than one standard to

accommodate a range of circumstances. It is notable that most ECP courses are currently run as a module at first degree (Bachelor of Science) level. Our colleagues in the other allied health professions and nurses who wish to take up similar extended roles are being encouraged to undertake a Masters Degree run by the NHS University called 'First Contact Care'. It would seem unwise for the ambulance profession to set its own educational ambitions at a lower level than this. The complexity of patients presenting to primary care make the development and application of protocols to direct treatment impossible, mandating for practitioners capable of working autonomously. Only education at Masters-degree level can offer autonomy as a realistic outcome.

Clearly, the development of courses at degree level and higher, and aimed specifically at ambulance staff, are creating pressure for a move from the current vocational training model to one set in higher education institutions. Although this may be inevitable, we must ensure that the mistakes made in the transition of nursing training to universities are not repeated. A criticism of early university-based nursing courses was that they lacked sufficient skills-based training and consequently did not produce nurses that were 'fit for practice' at the point of registration.¹⁸ We must, therefore, ensure that practical patient care skills remain at the core of all courses for ambulance professionals.

Although closure of title has been achieved for 'paramedics' the need to reassure patients and other health professionals about the qualifications and experience of extended scope practitioners suggests the need to secure additional titles, including Paramedic Practitioner, Emergency Care Practitioner, Community Paramedic, and Practitioner in Emergency Care. This means each will require a definition, or preferably the selection of just one role descriptor. The title of Nurse Practitioner is finally moving towards a universal definition, closure of title, and recording in a discrete part on the Nursing and Midwifery Council register. Subsequently, the adoption of the title *Paramedic* Practitioner might help our nursing colleagues to understand the role it is intended to define. The introduction of a qualification for paramedic practitioners that is registerable with the Health Professions Council is also essential to protect the public.

Currently, paramedics in the UK may legally 'supply and administer' a limited range of emergency drugs specified in the Medicines Act. The 'supply and administration' of additional unlisted drugs is possible through the development of Patient Group Directions. However, these are very proscriptive, include inflexible protocols, and require that the paramedic must personally carry the drugs to give to the patient. Changes in prescribing rights and laws will be required to support paramedic practitioners in undertaking their extended role.

Salaries must also reflect the greater responsibilities of advanced practitioners undertaking autonomous practice. However, gaining the recognition and professional status deserved by these rolling developments will require self-regulation by this emerging group of providers through its professional body, the British Paramedic Association. The BPA have already been tasked to review all educational programmes aimed at training ECPs.

All of these developments offer exciting opportunities for the clinical (that is, non-managerial) career ladder that many paramedics have been seeking. The NHS Modernisation Agency has published a cross-disciplinary Career Framework that seeks to define a number of levels of practice.¹⁹ The British Paramedic Association has recently developed a Career Framework document to define the future educational requirements and levels for the ambulance profession.²⁰ Table 2 shows how each educational level maps onto the NHS Career Framework and includes this author's proposals for role descriptors.

Author's role descriptor	BPA-recommended qualification	NHS Career Framework level
EMT	University Certificate	Assistant Practitioner
Paramedic	Foundation Degree / University Diploma	Practitioner
Paramedic Practitioner	BSc (Hons)	Senior / Specialist Practitioner
Autonomous Advanced Paramedic Practitioner	Masters degree	Advanced Practitioner
Consultant Paramedic (clinical, research, teaching, and professional leadership responsibilities)	Masters degree / PhD	Consultant Practitioner

Table 2: Ambulance roles and BPA- recommended qualifications mapped to NHS Career Framework levels

In addition to the expansion of their scope of practice into the management of non-urgent patients, new opportunities are emerging for paramedics in extended critical care roles. The Newcastle Royal Infirmary and the University of Teesside are piloting a BSc-level module that seeks to equip paramedics and nurses with the skills to independently manage inter-hospital transfers of neonatal patients. The University of Hertfordshire is planning to offer post-graduate modules designed to teach paramedics to manage critical-care transfers of adult patients. There is little evidence to support the addition of large numbers of clinical interventions to the paramedic's skill set for managing critical 999 patients. However, with appropriate training, it may be possible to demonstrate the benefit of adding a small number of additional skills, including rapid sequence induction anaesthesia, surgical cricothyroidotomy, and broadening options for analgesia to encompass regional blocks and administration of ketamine.

Conclusions

There is an urgent need for outcome-based research that objectively evaluates current and planned advanced practitioner programmes. Since these programmes were largely initiated as 'pilot projects' by the Department of Health, their evaluation should perhaps be identified as a research priority area by the UK Government and funds ring-fenced to support appropriate peer-reviewed studies. However, Paramedic Practitioners have a great future! There are many opportunities in primary, unscheduled, and emergency pre-hospital care right now, and these continue to expand. However, the successful development and implementation of the advanced paramedic practitioner role requires professional leadership, standardisation of competencies, education, and titles, and a move from vocational training to education in higher education institutions.

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