PREHOSPITAL CARE

For Debate...: A license to practise pre-hospital and retrieval medicine

R Mackenzie, D Bevan

The provision of on scene medical support to ambulance services in the UK is fragmented, disorganised, and largely unregulated. Recent and evolving educational, professional, and regulatory developments in medical practice now provide an opportunity to remedy this situation and ensure that "immediate care" is governed and regulated in the same way as any other specialist undertaking within the NHS.

Immediate care has been defined as the provision of skilled medical help at the scene of an accident or medical emergency and during transportation to hospital.¹ Well before the development of modern ambulance services and the recognition of accident and emergency (A&E) medicine as a specialty, general practitioners (GPs) were required to deal with increasing numbers of critically injured patients in the pre-hospital environment. Their response, in most parts of the UK, was to form themselves into voluntary associations and create a framework within which their training, equipment, and operational activity could be organised and funded.¹⁻³ These "immediate care schemes", in stark contrast to the systems developed in the United States and elsewhere in Europe, were, and still are, funded almost entirely through charitable donations.

In some parts of the country, hospital practitioners have also played a role in the provision of immediate care, either through "flying squads" or mobile medical teams or by individual membership of immediate care schemes.²⁻³ Some hospitals continue to deploy mobile teams at the request of ambulance services. Unfortunately, the provision of such services continues to be unpredictable, and there are very wide variations in availability, funding, training, experience, and equipment.⁴⁻⁶ There also appears to be considerable uncertainty regarding the composition, training, and role of hospital mobile medical teams in incidents that are not declared as major incidents.

Regardless of their background, the core activities that define the clinical practice of immediate care have remained essentially unchanged over the last 40 years. They can be defined by scrutinising the activity of individual schemes and doctors and ambulance service medical advisors and directors.²⁻⁷⁻¹¹ In our experience, this practice includes direct clinical care at the scene and during retrieval to hospital (in transit care), scene management, major incident management, clinical leadership (for example, medical director functions) and supporting professional activities such as training and education of ambulance service personnel.

Doctors involved with immediate care have historically undertaken a spectrum of activities

from simple first aid and basic resuscitation to high stakes critical care interventions. The development of modern ambulance services has further polarised this activity. At one end of the spectrum, there clearly remains a need for basic first response capabilities in rural areas. This has been recognised through initiatives such as the NHS Scotland Remote and Rural Areas Resource Initiative (which provides funding for standardised training for remote and rural medical practitioners)¹² and immediate care scheme involvement in development of community based lay response systems. At the other end of the spectrum, there also remains a need for specialist on scene and in transit medical support. The most common examples in our experience are the patient with immediately life threatening asthma and respiratory failure who is remote from hospital, and the seriously injured vehicle occupant who is trapped at the scene. The relative infrequency of such patients does not diminish their critical care needs or the impact that they have on NHS resources. There seems little doubt that the timely intervention of a competent specialist with the full range of critical care skills can have a major impact on such a patient's journey, in terms of early diagnosis, meaningful interventions, triage, or advocacy.¹³⁻¹⁶ The care of such patients often requires difficult clinical decisions that are likely to remain beyond the scope of most healthcare professionals employed by ambulance services for the foreseeable future.¹⁷⁻²⁰ We would argue that many of these decisions and interventions are likely to also be beyond the scope of the "occasional" or "fringe" immediate care doctor.

Given the emergence of "intermediate" care and confusion surrounding the medical practitioner's contribution to pre-hospital care, we propose that the term "pre-hospital and retrieval medicine" be used as a more accurate description of this area of specialist practice. In our current practice, we frequently attend incidents in rural areas, provide on scene medical care, undertake procedural sedation or emergency anaesthesia at the scene, and take responsibility for in transit medical care for 30-60 minutes. We believe that this represents a specialist function within the Ambulance Service spectrum of activity. The concept of "pre-hospital and retrieval medicine"

Abbreviations: A&E, accident and emergency; BASICS, British Association for Immediate Care; CCT, Certificate of Completion of Training; DoH, Department of Health; GP, general practitioner; GPwSI, General Practitioner with Specialist Interest (GPwSI); JCPTGP, Joint Committee on Postgraduate Training in General Practice; PHEC, Pre-hospital Emergency Care; PMETB, Postgraduate Medical Education and Training Board; STA, Specialist Training Authority

R Mackenzie, Consultant in Accident and Emergency Medicine and Medical Director, MAGPAS, St Ives, Cambridgeshire, UK

D Bevan, General Practitioner and Immediate Care Doctor, MAGPAS, St Ives, Cambridgeshire, UK

Correspondence to: Dr R Mackenzie, Mid Anglia General Practitioner Accident Service (MAGPAS), St Ives, Cambridgeshire PE27 5WF UK; roderick.mackenzie@magpas.org.uk

Accepted 30 December 2004

Debate

being considered as a specialist endeavour rather than an occasional pursuit is not new.^{1 21 22} The glaring inconsistency between the requirement for a predominantly consultant led emergency department phase compared to a paramedic or technician led pre-hospital phase for the same critically ill or injured patient is now, however, more difficult to defend other than on historical grounds. It is clearly recognised that time to meaningful intervention related to injury pattern is probably the most important determinant of survival following traumatic injury.^{23–25} There is no doubt that short scene times and rapid transfer to the appropriately staffed and prepared hospital should be the norm for most patients, but what of those who cannot be transported (entrapment) or who have urgent pre-hospital critical care needs that cannot be met from current paramedic or emergency care practitioner education and training? In addition, trauma care systems are changing, with the recognition that a balance has to be struck between local hospital access and the concentration of multispecialist expertise in regional centres.²⁶ A regional trauma system further increases the need for on scene medical care, selection of the most appropriate facility to meet each patient's needs, and safe retrieval to that facility. There is currently no system, training stream, or workforce in place across the UK to ensure that the needs of these patients are met in a consistent or organised manner.

BASICS

The British Association for Immediate Care (BASICS) was formed in 1977 with the aim of becoming the national co-ordinating body for those providing immediate care throughout the UK. It has been instrumental in the development of the Resuscitation Council, the Diploma in Immediate Medical Care (Dip IMC) and the Faculty of Pre-hospital Care of the Royal College of Surgeons of Edinburgh.³ In 1998, BASICS introduced a voluntary accreditation scheme for its members. However, uptake has been poor, and few ambulance services or immediate care schemes have sought to enforce or even apply the

BASICS accreditation standards to doctors who deliver a clinical service (box 1). Organisations that employ doctors, such as the London Helicopter Emergency Medical Service (HEMS) and Great North Air Ambulance (GNAS), do not require applicants to hold and/or maintain BASICS accreditation. Similarly, A&E departments who routinely send doctors to incident scenes do not require them to be BASICS accredited. The accreditation standards themselves are also widely regarded as primarily aimed at the occasional practitioner in rural areas (for example, completion of a 3 day Pre-Hospital Emergency Care (PHEC) course). Those organisations that have applied standards tend to use the Dip IMC as a benchmark. This has been recommended as the minimum qualification for doctors regularly called out by ambulance services by both BASICS and the Royal College of Surgeons.^{1 26 27} Despite this, the Dip IMC is not a minimum requirement for BASICS accreditation and it has not become a mandated prerequisite for operational activity supporting ambulance services.

THE FACULTY OF PRE-HOSPITAL CARE

The Dip IMC is administered by the Royal College of Surgeons of Edinburgh and its Faculty of Pre-hospital Care. The faculty was formed in 1996 with the central aim of setting and maintaining standards of practice in pre-hospital care. The Dip IMC has undergone extensive development and is now open to nursing and paramedic professionals. Paradoxically, the current regulations for the Dip IMC require “documented evidence of clinical experience in the area of pre-hospital emergency care for a period of 1 year”.²⁸ Perhaps as a result of this perceived restriction, a wide range of short vocational courses such as PHEC, Pre-hospital Trauma Life Support (PHTLS),²⁹ Pre-hospital Paediatric Life Support,³⁰ Safety at Scene,³¹ and Major Incident Medical Management and Support³² have become regarded as sufficient in themselves to qualify or accredit doctors for practice in pre-hospital care.

A new Fellowship examination has recently been created, which is only open to doctors who have obtained the Dip IMC or its equivalent and have at least 4 years' post-registration experience. It could therefore be taken 2 years after the Dip IMC. The concept of the FIMC as a specialist exit examination is implicit in the regulations and reflects the level of expertise and competence required for specialist practice. The regulations state that experience must be in the “specialist area of immediate medical care” and that the examination is “only open to those who have undertaken and successfully completed a training programme approved by the Specialty Advisory Board”.²⁸ These examination developments mirror, to some degree, the rigour applied to the Examination of Special Competence in Emergency Medicine of The College of Family Physicians of Canada,³³ the Postgraduate Diploma in Community Emergency Medicine in New Zealand³⁴ and the Diploma in Primary Emergency Care of the College of Family

Box 1 BASICS Accreditation Requirements for Doctors (from www.basics.org.uk)

- Full GMC registration
- Evidence of professional development in the field of pre-hospital care
- PHEC certificate or Immediate Care Course or Dip IMC or FIMC
- Evidence of operational activity in the pre-hospital environment
- Recommendation from an accredited BASICS member
- Indemnity insurance is provided for
- Individual member of BASICS
- Undertaking to agree to BASICS accreditation requirements/code of practice

Debate

Box 2 NES accreditation standard for provision of immediate and first response care (from reference 36)

Practitioners will normally be expected to:

- (a) as a minimum, possess the Pre-Hospital Emergency Care (PHEC) Certificate of the Royal College of Surgeons of Edinburgh or other equivalent pre-hospital emergency medicine qualification;
- (b) undertake a local orientation and familiarisation programme;
- (c) undergo such advanced driving tuition as required by the Ambulance Service;
- (d) undertake such communications systems training as required locally;
- (e) undertake such refresher training as dictated by good clinical governance and the need to remain accredited;
- (f) accept and obey the local statutory emergency service command structures;
- (g) if the NES is operated locally through a local immediate care scheme, accept its rules and operational standards;
- (h) maintain appropriate communications with the tasking control room concerning personal availability for call out;
- (i) be familiar with the scope and limitations of paramedic practice;
- (j) be willing to work in a team;
- (k) accept the ambulance service tasking policy.

Practices or individuals that are contracted to provide such services should be able to demonstrate competencies in all the above areas, and in addition should be able to show active participation in service development through CPD, audit, and critical case analysis. The keeping of an individual log of incidents attended and interventions is mandatory. Accreditation may be achieved by meeting the standards set by a mutually agreed third party such as a local immediate care scheme, British Association for Immediate Care, or the Faculty of Pre-Hospital Care. This should occur on an annual basis and be summarised in an annual report. Such professional organisations should be asked to review a doctor's performance if there is any doubt or dispute over an individual's or practice's status.

Practitioners of South Africa.³⁵ There is, however, no formally constituted or recognised training programme in immediate care in the UK.

THE NEW GP CONTRACT

In addition to the work of BASICS and the Faculty of Pre-hospital Care, the new GP contract adds weight to the argument for recognition of pre-hospital and retrieval medicine as a subspecialty activity undertaken only by those who are recognised as competent to do so. The contract has made provision for primary care

organisations (PCOs) and GPs to contract for enhanced services to meet local health needs. These enhanced services can include specialist interests in addition to the essential traditional GP services. The contract documentation includes a detailed national enhanced service (NES) specification for "provision of immediate care and first response care" (box 2).³⁶ Although the NES represents an important step in recognising the role of General Practice in provision of immediate care, it does not differentiate first response services from more specialist pre-hospital critical care. The specification does, however, make explicit the need for GPs to demonstrate competence. It states (under the heading "accreditation") that GPs must satisfy at appraisal and revalidation that they have the relevant "continuing medical experience, training, and competence as is necessary for them to be able to contract for the enhanced service". The specification goes on to state that GPs should, as a minimum, have completed the PHEC course or its equivalent. The role of BASICS and the Faculty of Pre-hospital Care as the standard setting and accreditation bodies is also endorsed.

GENERAL PRACTITIONERS WITH SPECIAL INTERESTS

In a parallel development, the Department of Health (DoH) General Practitioner with Specialist Interest (GPwSI) project has encouraged PCOs to support GPs and allied health professionals who wish to develop specialist interests and expertise in particular clinical areas. While this development has been primarily aimed at improving access to outpatient services (for example, ear, nose and throat), the DoH has commissioned the Royal College of General Practitioners (RCGP) to develop a framework for GPwSI appointments in "Emergency and Unscheduled Care".^{36 37} This framework includes pre-hospital and "scene of incident" care, and explicitly states that a process of accreditation should be undertaken by the "employer" organisation (acute trust, ambulance trust, or PCO). This accreditation process should be related to evidence of having achieved an agreed and defined set of competencies (although it is recognised that the competencies themselves have not been defined). The framework documents go on to state that "a diploma or similar formal qualification can provide a credible source of evidence of the acquisition of the required competencies". The PHEC is described as an example of an "entry level" course.³⁷

The GPwSI framework provides a much more robust mechanism for accreditation, appointment, and funding of appropriately trained specialist medical support to ambulance services than the NES provisions within the new GP contract. Applicants for such posts must show proof of competency as a GP and provide evidence of competence in the special interest area sufficient to meet the requirements of the post.³⁸ This mirrors established arrangements for hospital subspecialty recognition: evidence of competency in the subspecialty is required in addition to proof of competence as a consultant within a defined specialist area. Although the

Box 3 Key Principles and standards for postgraduate medical education training programmes (Adapted from reference 40)

The programme must:

- have defined, patient centred, learning outcomes; be developed jointly with the disciplines concerned, the trainees, patients, public and the service;
- be based on the standards of professional practice set out in *Good Medical Practice*;
- include any generic learning outcomes required by the PMETB;
- have explicit, published entry criteria and selection processes that are valid, reliable, open and comply with current equal opportunities legislation;
- have arrangements to support trainees to train and work flexibly;
- have arrangements to support trainees who have special needs;
- be designed to support the needs of doctors who may enter training at a number of different levels with varying levels of knowledge and skills;
- have processes in place for the regular evaluation and review of the programme and its outputs;
- have processes for ensuring that trainees provide information on their supervision, training and clinical experience.

The curriculum must:

- include details of the intended learning outcomes and a syllabus of knowledge, skills, and professional attitudes and behaviours;
- allow training and learning to be delivered flexibly in ways that are relevant and meet trainees' learning needs;
- provide experiential learning through systematic clinical training;
- involve trainees in the supervised delivery of service;
- provide for regular formal educational sessions that cover topics of value and topics of interest to trainees;
- include a systematic programme of valid and reliable formative and summative assessments;
- provide opportunities and processes for self-directed learning, regular feedback, career advice and counselling, extra support, and remediation and retraining.

Those responsible for programmes must ensure that:

- there is a clear statement of responsibility for the different aspects of the programme;
- those who have responsibilities for teaching have the skills, attitudes and practices of a competent teacher and that trainees are properly supervised;

- there are sufficient resources to achieve the programme's learning outcomes;
- there are sufficient resources in the trust, primary care organisation, practice or other organisations where the trainee is being placed to allow the training to be undertaken effectively;
- there is provision of adequate resources to support trainees personal learning needs;
- they have an appropriate working knowledge and understanding of the regulatory framework in the UK.

NES funding arrangements could be applied to a GPwSI, the NES specification is perhaps better suited to GPs contracted to provide first response services.

LICENSING AND REVALIDATION

Additional recent developments within medical regulation provide further impetus for development of pre-hospital and retrieval medicine as a recognised subspecialty of both general and hospital practice. From 2005, all doctors who wish to practice medicine in the UK will be required to hold a license to practice in addition to their registration. Although rarely explicitly stated, we believe that this license will be specialty specific. Central to the award of a license are the training and revalidation processes. The evidence required to show compliance with the principles of good clinical care (the first of the seven attributes of good medical practice examined by revalidation) is, by definition, speciality specific.³⁹ Thus, if pre-hospital and retrieval medicine was recognised as a specialist endeavour, neither a GP or a consultant in emergency medicine would have a license to practice in this area unless they could demonstrate achievement and maintenance of professional competence. Recognition of pre-hospital and retrieval medicine as a specialist endeavour will ensure that critically ill and injured patients obtain the same regulatory protection in the pre-hospital environment as they would in any other healthcare setting.

REFORM OF POSTGRADUATE MEDICAL EDUCATION

The drive for the development of an NHS workforce that is fit for purpose has led to fundamental reform of both undergraduate and postgraduate medical education and training.⁴⁰ All medical graduates of the future will complete a 2 year Foundation Programme, which will provide the appropriate background for entry into specialist and general practice training. On completion of this programme, doctors will be able to apply directly to competency based specialist or general practice training programmes within recognised training rotations, which will lead to a Certificate of Completion of Training (CCT). The existing Specialist Training Authority (STA) will be absorbed into the new Postgraduate Medical Education and Training Board (PMETB). For General Practitioners, it is intended that the Joint Committee on

Debate

Debate

Figure 1 A framework for subspecialty training and registration for pre-hospital and retrieval medicine.

Postgraduate Training in General Practice (JCPTGP), the current equivalent of the STA, also becomes absorbed into the PMETB. The PMETB will therefore become the UK competent authority for accreditation of both general and specialist practitioner training.

There are currently 55 recognised medical specialties and 29 subspecialties. We understand that an NHS consultant's license to practice will be directly related to their recognised specialist and subspecialist accreditation on the GMC Specialist Register. Within the specialty of accident and emergency medicine, paediatric accident and emergency medicine is the only

currently recognised subspecialty. The process for recognition of a new subspecialty in pre-hospital and retrieval medicine is likely to be similar to the existing arrangements.⁴¹ The PMETB will require a competency based curriculum, framework and training programme that meets its standards (box 3) and that has been agreed between the Faculty of Pre-hospital Care, the Faculty of Accident and Emergency Medicine, the RCGP, and BASICS.⁴² There is no reason why such subspecialty recognition, leading to a license to practice, cannot be included on the proposed General Practice Register in much the same way as for a consultant on the Specialist Register.

A POSSIBLE ROUTE TO SUBSPECIALTY ACCREDITATION

Doctors who wished to develop a subspecialty practice in pre-hospital and retrieval medicine would be required to undertake a training programme recognised by the PMETB (fig 1). Entry to the programme might follow the model and procedures proposed for competitive entry to general and specialist training programmes.⁴⁰ The Dip IMC has been widely and repeatedly advocated as an appropriate benchmark for immediate care practitioners and it, or its equivalent, should also therefore be a pre-requisite for entry to any training programme. Given the need to have some pre-hospital emergency care experience prior to attempting the Dip IMC, an entry level vocational course such as PHEC or those delivered by BASICS Scotland could remain the minimum recommended basic training prior to undertaking supervised clinical experience. Unsupervised clinical duties at this stage should be no more encouraged in pre-hospital care than they are currently in general or specialist practice.

Once accepted onto a training programme, the doctor could be required to register with a professional body such as the Faculty of Pre-hospital Care in order to undertake a review of their training and experience against a clearly defined competency framework. A tailored programme of training and supervised experience lasting 12–24 months would then be agreed and progress through the programme monitored. Towards the end of the training programme, the doctor could be required to complete the FIMC. On completion of the training programme and the exit examination, representation would then be made to the PMETB for recognition of subspecialty training. This may need to be linked to the underpinning CST in specialist or general practice but it is not clear whether this would be necessary in reality as some doctors may have further training to complete before the award of a CCT.

Development of a subspecialist interest in pre-hospital and retrieval medicine would not be restricted to those at the beginning of their medical careers. A fundamental tenet of *Modernising Medical Careers* is that systems should be in place to allow entry to recognised training programmes by doctors at various stages in their careers.⁴⁰ In addition, a pre-hospital and retrieval medicine training programme need not be a full time endeavour and some flexibility would need to be applied by the professional body (e.g. the Faculty of Pre-hospital Care) to ensure that prior learning and sessional, part-time and voluntary experience can all be incorporated into training programmes. This mirrors the approach taken by the Faculty of Accident and Emergency Medicine, which already recognises some pre-hospital activities for A&E training (e.g. within the military, with London HEMS and within some immediate care schemes).

COMPETENCY DRIVEN TRAINING AND ASSESSMENT

Central to the concept of subspecialist accreditation and practice is a competency based programme with relevant training, assessment and

BOX 4 The 10 themes in the MAGPAS competency framework for specialist training in Pre-hospital and Retrieval Medicine

1. Operational environment
2. Resuscitation and clinical care
3. Equipment and monitoring
4. Care of children
5. Rescue and extrication
6. Analgesia and procedural sedation
7. Pre-hospital emergency anaesthesia
8. Special incident medical support
9. Major incident medical support
10. Retrieval and transfer

supervised practice.^{40–42} In developing such programmes, there is a critical distinction to be made between the rural practitioner who has occasional need to support the ambulance service as a first responder (with skills equivalent to a modern paramedic) and the specialist practitioner who is engaged or employed by ambulance services specifically for the purposes of providing specialist on scene, special incident, and major incident medical support. The scope of clinical practice has been mentioned above and is neatly delineated by the 10 core competency themes in the current training programme utilised by Cambridgeshire's immediate care scheme, MAGPAS (box 4).⁴³ Work is currently underway to develop these themes into a competency based curriculum and syllabus of knowledge, skills, and professional attitudes and behaviours.

We believe that there is an opportunity for the Faculty of Pre-hospital Care to set and maintain the standards for both training and assessment for such a programme, building on its existing work with accreditation, the Dip IMC and the FIMC. Monitoring and evaluating the delivery of training would also become the remit of the PMETB. Actual delivery of training should probably remain a core activity of BASICS and BASICS Scotland together with ambulance trusts, universities, immediate care schemes and other faculty accredited course providers.

With regard to supervised practice, a number of models currently exist in the UK, which are well established in terms of organisation, training, and supervision and which could be adapted to meet the needs of such a training programme. Examples of these currently include helicopter based services such as the Teeside based Great North Air Ambulance (www.greatnorthairambulance.co.uk) and London HEMS (www.hems-london.org.uk) as well as land based services such as the MAGPAS Emergency Medical Team (www.magpas.org.uk) and the West Midlands CARE Team (www.wmcareteam.com).

A CALL FOR ACTION

Reform of emergency care has encouraged radical thinking and innovative practices across

Debate

Debate

the spectrum of emergency, unscheduled, and out of hours care demands. A new generation of healthcare professionals are being given the education, training, and confidence to address many of these demands. Among all this change, however, there is a tendency to underestimate the needs of critically ill or injured patients in the pre-hospital phase and undervalue the role of an appropriately trained and equipped physician in their management. The daily operational activity of volunteer immediate care doctors around the UK and their heavy involvement in ambulance service development serves to remind us of the continued need for access to such physicians in the "therapeutic vacuum" between injury or illness and meaningful intervention. Although the language and terminology differ, developments within BASICS, the Faculty of Pre-hospital Care, the RCGP, the DoH, and the GMC reveal a clear recognition of the need for competence and professional regulation in delivery of specialist pre-hospital care.

Patients have a right to expect that the same standards of professional medical regulation will apply in the pre-hospital phase of their journey as in the hospital phase. There are now opportunities to develop a framework for a properly trained and regulated medical workforce capable of providing specialist medical support to ambulance services. The development of a rigorous, accredited career stream in pre-hospital and retrieval medicine would fill one of the few remaining gaps in the provision of emergency care in the UK. There is real opportunity for both individual practitioners and the organisations responsible for regulating and applying standards to now collaborate and reach agreement on the scope of practice, competency framework and licensing arrangements for the subspecialty of pre-hospital and retrieval medicine.

ACKNOWLEDGEMENTS

This work was supported by funds from the MAGPAS Research Programme.

Competing interests: R Mackenzie is a member of BASICS and the Faculty of Pre-hospital Care of the Royal College of Surgeons of Edinburgh. He is also an examiner for the Dip IMC and the Deputy Associate Editor for Pre-hospital Care for the EMJ. D Bevan is a member of BASICS. The opinions expressed are those of the authors and not of either the Faculty of Pre-hospital Care or BASICS.

REFERENCES

- 1 **British Medical Association Board of Science and Education.** *Immediate care schemes.* London: BMA, 1993.
- 2 In: Easton K, ed. *Rescue emergency care.* London: Heinemann, 1977.
- 3 **Hines K.** *BASICS Comes of Age 1977-1998: A short history of immediate care.* Ipswich: BASICS, 1998.
- 4 **Brennan L, Sage FJ, Simpson A.** Major incident planning in South East Thames Region: a survey of medical staff awareness and training. *J Accid Emerg Med* 1994;11:85-9.
- 5 **Carley S, Mackway-Jones K.** Are British hospitals ready for the next major incident? Analysis of hospital major incident plans. *BMJ* 1996;313:1242-3.
- 6 **Graham CA, Hearn ST.** Major incidents: training for on site medical personnel. *J Accid Emerg Med* 1999;16:336-38.
- 7 In: Greaves I, Porter K, eds. *Pre-hospital medicine: principles and practice.* London: Arnold, 1999.
- 8 In: Søreide E, Grande CM, eds. *Pre-hospital trauma care.* New York: Martin Dekker Inc, 2001.
- 9 **Roberts K, Bleetman A.** An email audit of prehospital doctor activity in an area of the West Midlands. *Emerg Med J* 2002;19:341-44.
- 10 **Cooke MW.** How much to do at the accident scene? *BMJ* 1999;319:1150.
- 11 **Cooke MW, Allison K.** Medical directors in the ambulance service. *Pre-hosp Immed Care* 1998;2:128-9.
- 12 **RARARI.** Remote and Rural Areas Resource Initiative. <http://community.rarari.org.uk>.
- 13 **Baxt WG, Moody P.** The impact of advanced prehospital emergency care on the mortality of severely brain-injured patients. *J Trauma* 1987;4:365-9.
- 14 **Deakin C, Davies G.** Defining trauma patient subpopulations for field stabilisation. *Eur J Emerg Med* 1994;1:31-33.
- 15 **Oppe S, De Charro FT.** The effect of medical care by a helicopter trauma team on the probability of survival and the quality of life of hospitalised victims. *Accid Anal Prev* 2001;33:129-38.
- 16 **Lee A, Garner A, Fearnside M, et al.** Level of prehospital care and risk of mortality in patients with and without severe blunt head injury. *Injury* 2003;34:815-19.
- 17 **Baskett P, Chamberlain D, Clarke T, et al.** The future role and education of paramedic ambulance service personnel (Emerging Concepts). Joint Royal Colleges Ambulance Liaison Committee, January 2000. www.jrcalc.org.uk.
- 18 **Battersby D.** The future of ambulance officer education and training in the UK. *Pre-hosp Immed Care* 1998;3:113-14.
- 19 **Woollard M, Ellis D.** Prehospital care five years hence. *Pre-hosp Immed Care* 1999;3:102-7.
- 20 **Ball L.** Setting the scene for the paramedic in primary care: a review of the literature. *Emer Med J*, in press.
- 21 **Davies G.** The future of Pre-hospital Medicine. In: Earlam R, eds. *Trauma care: HEMS London.* London: Saldatore Ltd, 1997.
- 22 **Cooke MW.** Immediate care: specialty or pastime? *Injury* 1994;25:347-8.
- 23 **Cowley RA.** The resuscitation and stabilization of major multiple trauma patients in a trauma center environment. *Clin Med* 1976;83:16-22.
- 24 **Trunkey D.** Initial treatment of patients with extensive trauma. *N Engl J Med* 1991;324:1259-63.
- 25 **Sampalis J, Denis R, Lavoie A, et al.** Trauma care regionalization: a process-outcome evaluation. *J Trauma* 1999;46:565-79.
- 26 **Royal College of Surgeons of England and British Orthopaedic Association.** *Better care of the severely injured.* London: Royal College of Surgeons, 2003.
- 27 **British Association for Immediate Care.** *BASICS clinical governance guidance document.* Ipswich: BASICS, 2000.
- 28 **Faculty of Pre-hospital Care, Royal College of Surgeons of Edinburgh.** *Regulations relating to the Diploma and Fellowship in Immediate Medical Care.* October 2003. www.rcsed.ac.uk.
- 29 **National Association of Emergency Medical Technicians.** *Pre-hospital Trauma Life Support.* New York: CV Mosby, 2003.
- 30 **Advanced Life Support Group.** *Pre-hospital paediatric life support.* London: BMJ Publishing Group, 1999.
- 31 **Calland V.** *Safety at scene: manual for paramedics and immediate care doctors.* London: Mosby Ltd, 2001.
- 32 **Advanced Life Support Group.** *Major incident medical management and support: the practical approach at the scene.* London: BMJ Publishing Group, 2001.
- 33 **College of Family Physicians of Canada.** Examination of Special Competence in Emergency Medicine. www.cfpc.ca.
- 34 **Faculty of Medical and Health Sciences, University of Auckland.** Postgraduate Diploma in Community Emergency Medicine. www.health.auckland.ac.nz.
- 35 **College of Family Practitioners of South Africa.** Diploma in Primary Emergency Care. www.collegemedsa.ac.za.
- 36 **Department of Health.** National enhanced service for provision of immediate care and first response care and GPwSI framework guidelines. www.dh.gov.uk/PolicyAndGuidance/OrganisationPolicy/PrimaryCare.
- 37 **Royal College of General Practitioners and Department of Health.** *Guidelines for the appointment of general practitioners with special interests in the delivery of clinical services: emergency and unscheduled care.* London: DoH, 2002.
- 38 **National Primary and Care Trust Development Programme.** Practitioners with special interests: A step by step guide to setting up a general practitioner with a special interest (GPwSI) service. London: NHS

- Modernisation Agency, 2003, www.natpact.nhs.uk/special_interests.
- 39 **General Medical Council.** Registration, licensing and revalidation arrangements. www.gmc-uk.org.
- 40 **Departments of Health of the United Kingdom.** *Modernising medical careers: the next steps*. London: Department of Health, 2004. www.mmc.nhs.uk.
- 41 **Specialist Training Authority of the Medical Royal Colleges.** Process for recognition of sub-specialty training. www.sta-mrc.org.uk.
- 42 **Postgraduate Medical Education and Training Board.** Certification for doctors. www.pmetb.org.uk.
- 43 **MAGPAS.** Specialist pre-hospital Emergency Medical Team training programme. www.magpas.org.uk.

Debate

PREHOSPITAL CARE

Commentary from RCGP

T Ambury

This is a timely call for the standardisation of the training for and the provision of immediate care. The current situation – that such a fundamental service consists of a plethora of providers and skills funded, in the main, through charitable means – is scandalous. Standardised training leading to a quality assured service is in the best interests of patient safety.

The Royal College of General Practitioners (RCGP) stance is that there must always be a role for doctors in the provision of immediate and unscheduled care, and that all practitioners involved in such care be appropriately trained to national standards. The authors' call for regulation leading to the "timely intervention of a competent specialist" is one the College welcomes.

Mackenzie and Bevan speak of raising the standard of the pre-hospital environment to that of at least A&E by citing the latter's predominantly consultant led status. While true, consultant led does not necessarily mean doctor led. There are now several nurse consultants across the UK, and training is underway to deliver consultant emergency care practitioners (ECP). To imply that paramedic or technician led care may be sub-standard is offensive and also flies in the face of current workforce planning.

The pre-hospital environment needs a team of competent clinicians providing a pool of skills and experience. Rather than reinforcing existing professional silos by creating a doctor led Faculty of Pre-Hospital and Retrieval medicine, the authors would do better to call for the development of a multi-disciplinary system, with shared training measured against national standards, and workforce planning, to ensure that patients' needs are well served.

There is also confusion about provision of such care under the new GMS contract by

commissioning of enhanced services by primary care organisations (PCOs). Such commissioning will drive standards of care upwards by making training for, and ongoing competence in, immediate care conform to a set minimum standard. However, PCOs are not restricted to commissioning these services from GPs. Indeed, the flexibility of the enhanced service framework is that it should allow the development of teams of skilled practitioners, including GPs, in the way alluded to above.

General practitioners with a specialist interest (GPwSI) are, first and foremost, GPs. Guidance to PCOs and other prospective employers regarding the level of skills acquired by GPwSI is designed to ensure that the GP, while working from a generalist position, has attained, and takes steps to maintain, specialist experience and skills. It is likely that appraisal and revalidation will lead to a robust system of ensuring that this does indeed occur. There are as yet no definitive plans for a GP register to be set up, let alone sub-specialist registers below this.

Therefore, rather than call for the creation of a sub-specialty that maintains the status quo, patients would be better served if a pre-hospital and retrieval medicine speciality was much more ambitious. The Faculty of Pre-Hospital Care should oversee the development of a multi-skilled, multi-disciplinary team of clinicians – medical, nursing and paramedical – to provide care in this setting, working to do so not only with the RCGP, Faculty of Accident and Emergency Medicine, and BASICS, but also nursing and ambulance authorities.

ACKNOWLEDGEMENT

Thanks to I Maconochie, A&E Consultant, St Mary's Hospital, London, for discussing an early draft.

Competing interests: none declared

Debate

PREHOSPITAL CARE

Commentary from the RCA Royal College of Anaesthetists

Timely pre-hospital interventions by doctors, which cannot be undertaken by paramedics, may improve the outcome for some patients; however, we should recognise that this assertion lacks robust scientific evidence. In comparison with several other European countries, the involvement of doctors in pre-hospital care in the UK is variable; in some regions, pre-hospital involvement is negligible. In many areas, the response to ambulance personnel requesting medical assistance at the scene of a motor vehicle crash, for example, comprises a mobile medical team dispatched from the nearest hospital. The doctor on this team may be a trainee in emergency medicine or anaesthesia who has received little or no training in pre-hospital care.

Doctors who commit to providing pre-hospital care should be trained appropriately. In line with other medical specialities, such training should be competency based and subject to revalidation. In an attempt to improve and standardise pre-hospital care by doctors in the UK, Mackenzie and Bevan propose the establishment of the new sub-specialty of pre-hospital and retrieval medicine. It is suggested that the curriculum for this subspecialty would be agreed by the Faculty of Pre-hospital Care of the Royal College of Surgeons of Edinburgh, the Faculty of Accident and Emergency Medicine (FAEM), the Royal College of General Practitioners (RCGP), and the British Association for Immediate Care (BASICS). As rapid sequence induction of anaesthesia and tracheal intubation is considered to be one of the key pre-hospital interventions that can be undertaken by a properly trained doctor, but not a paramedic, it would seem sensible to include the Royal College of Anaesthetists (RCA) in these discussions. Recently, collaboration between the RCA and FAEM has resulted in the development of an emergency airway course, which introduces emergency physicians and anaesthetists to the skills and decision making needed for rapid sequence induction and intubation.¹ This course will be relevant to the pre-hospital practitioner. If pre-hospital practitioners are to acquire and maintain advanced airway skills they will benefit from the co-operation of anaesthetists.

There are several challenges that emerge from the proposal to form a subspecialty of pre-hospital and retrieval medicine. The need for a doctor on scene is comparatively rare (precise data would be valuable) and acquiring the appropriate skills and experience may be difficult outside of helicopter emergency medical services that cover a large population. Having acquired the skills necessary for pre-hospital practice, it is difficult to see how adequate ongoing experience could be achieved unless the individual has the opportunity to practice in another setting—that is, in hospital. How does the general practitioner with a pre-hospital interest acquire and maintain skills in advanced airway management? Are primary care trusts (PCTs) prepared to fund a pre-hospital programme of training and supervised experience lasting for up to 2 years? Will the PCTs have resources to fund increasing involvement of doctors in pre-hospital practice?

With appropriate training, pre-hospital practitioners could become involved in the transfer of critically ill patients between hospitals. These practitioners are more likely to be those with an in hospital primary specialty, such as emergency medicine. Regionalisation of specialist services such as trauma will necessitate more patient transfers from the receiving hospital to the regional centre. The receiving hospitals often struggle to release skilled personnel (usually anaesthetists) to undertake prolonged transfers. By taking on this transfer work, the pre-hospital specialist would have the opportunity to maintain skills at the same time as creating a more viable business case for PCTs.

Timely pre-hospital interventions by doctors, which cannot be undertaken by paramedics, may improve the outcome for some patients; however, we should recognise that this assertion lacks robust scientific evidence. If a subspecialty of pre-hospital and retrieval medicine were to be developed, audit and research would be one of its important functions.

Competing interests: none declared

REFERENCE

- 1 Nolan J, Clancy M. Airway management in the emergency department. *Br J Anaesth* 2002;**88**:9–11.

PREHOSPITAL CARE

Commentary from BASMeD

J Scott

Debate

I am grateful to have the opportunity to provide a commentary on this paper, responding on behalf of the membership of the British Ambulance Services Medical Directors Group (BASMeD).

There is clear support from the membership for the idea and principles in the paper. BASMeD particularly welcomes the opportunity that this paper provides to stimulate the debate, but would like to emphasise that the paper should not be seen as an endpoint. The need for a sub-specialty and linkage to ambulance trusts is overwhelming, but in striving for that goal, any change must not alienate those doctors providing real and additional clinical care for patients, often before the ambulance response arrives.

There is a particular need to establish clinical standards (individual competencies/proficiencies) with regulation of those who aspire to practise to those standards. There is certainly a need to ensure that examination points are consistent and that there is equity of clinical standard throughout the body of doctors providing services to support ambulance work.

Who should regulate this sub-specialty? There is presently a vacuum that must be filled before yet more fragmentation occurs. Medical directors of ambulance services with a governance "hat", require, probably more than any other group, the creation of a sub-specialty, not only for their own clinical practice, but as managers of a publicly funded clinical service. The sub-specialty must not detract from the voluntary aspects of the existing immediate care groups, but should ensure consistent standards of care, facilitating much needed education, research, and audit across lines or disciplines of service provision.

To that end, the sub-specialty is essential to develop governance, but there has to be a pragmatism that recognises the real world of targets placed on all health economies. As

medical directors, we would expect benefits from such a development, and if benefits were demonstrated, then it is hoped that funding and support would follow.

The principles of a competency based framework are to be applauded. However, the academic support should not be narrow but as widely based as possible, being intercollegiate. There is a need to break down professional barriers, and this proposal must not be allowed to create divisions or fragmentation. As medical directors, we work across many professional groups, particularly in the rapidly developing or evolving ambulance provision. If this proposal is to succeed, we need to think beyond the concepts of the major incident or serious incident, and include the whole range of resuscitation skills coupled with the more minimalist interventions required in the provision of out of hours, telemetric, or virtual medical support to ambulance trusts and their staff. There should be professional links established to those staff providing other aspects of ambulance response, be that paramedics, nurses, or doctors.

So what, if any, are the downsides? The title of the sub-specialty strikes a discordant note. Colleagues in BASMeD were unhappy with the use of the word "retrieval". Only one alternative name was suggested: "early emergency interventional care". The present title of the sub-specialty is not supported.

The paper challenges us and does indeed open the debate. Let us not close the door just because it seems to touch a nerve; BASMeD must engage in this debate or be left behind, and that would harm patient care. BASMeD supports the debate and congratulates those who have set the fox among the chickens; let us now together build a coop for the future, providing a way of life for both foxes and chickens.

Competing interests: none declared

Debate

PREHOSPITAL CARE

Commentary from BASICS Scotland

B Carlin

There is unanimous agreement that there is a need to further improve pre-hospital emergency care (immediate care) training, but strong disagreement that the core activities that define the clinical practice of immediate care have remained unchanged over the past 40 years. In Scotland, and other areas of the UK, the standard and availability of training has increased dramatically in the past 10 years. More recently, there has been a significant improvement in the provision of equipment. As a consequence, a broader range of interventions can be undertaken by a large number of practitioners with more skill, more knowledge, better equipment, and within a well defined system of care.

We would question the number of situations requiring skills greater than those of the immediate care trained general practitioner. This is especially true in urban areas, where time to hospital is short and prolonged entrapment rare. It has to be remembered that as well as the immediate care training, such practitioners have already had a minimum of 9 years of medical training before they enter independent general practice. This delivers a level of expertise well above standard UK paramedic training for most conditions.

The reality of the delivery of pre-hospital care in Scotland is that because of the large proportion of rural areas, many general practitioners and rural nurses are actively involved. These practitioners have a large number of demands on the limited amount of time they have available for education and training. If many of the

standards referred to in this paper, particularly the FIMC, were rigidly applied, it would be impossible for rural practitioners to meet them. The likely consequence is a fear of litigation that would stop rural practitioners practising immediate care altogether. It is felt by BASICS Scotland that this would be extremely detrimental to patient care in Scotland and other rural areas. The reality of life for rural practitioners is that training is mostly based on advanced life support principles. Because of geography and time constraints, any more elaborate training would be totally impractical.

It is also felt that if a specialty is to be developed, then more opportunities should be created for our ambulance and nursing colleagues to gain further qualifications in this area. The proposals as suggested are too doctor centred.

It is felt that the paper did not produce any evidence to justify the argument that there is a need for a significant amount of training beyond that currently taught on immediate care courses. We would like to see any evidence of which we are not aware that justifies the increase in training and the time that would be required to undertake such training to develop enough pre-hospital and retrieval medicine specialists to provide a service across the UK. Just what exactly are the additional critical care skills that will have a major impact in terms of early diagnosis, meaningful interventions, triage, or advocacy?

Competing interests: none declared

PREHOSPITAL CARE

Commentary from BAIC

D Zideman

Thank you for requesting a commentary directly from the British Association for Immediate Care (BASICS). BASICS is always delighted to consider any proposal that improves the delivery of immediate care in the UK.

In this article, the authors have provided a vast array of proposals, culminating in a licensing system for practitioners of immediate care based on an examination system. Our association has

long recognised the need for the “licensing” of practitioners and introduced an accreditation programme that has been running for over 6 years. The programme encompasses a wide range of practitioners. It recognises that the PHEC course is a minimum standard and we have always encouraged regular responders to undertake the Diploma examination. Furthermore, it recognises experience. We have always

discouraged the use of untrained staff to work in the pre-hospital environment. Unfortunately, there seems to be a persistent misconception that hospital A&E staff, many of whom hold high academic qualifications, can simply and instantly adapt their practice to the out of hospital environment. This misconception must be corrected, and only trained and accredited individuals be sent to a pre-hospital incident.

BASICS, in using its accreditation process, has also recognised the large number of practitioners needed to provide even the most rudimentary immediate care assistance. We have repeatedly undertaken recruitment drives to encourage those interested in immediate care to register, train, and become accredited. We do have to concede that there are vast areas of the UK, both urban and rural, that do not have this type of voluntary emergency medical cover, and rely totally on the skills of the ambulance service paramedics and technicians. BASICS has had to recognise that, although an examination based accreditation process would be ideal, this could result in a large number of very experienced practitioners becoming non-operational. Instead, we have continued to encourage those interested in immediate care practice to train, to update, and to honestly assess their level of participation. It is essential that immediate care practitioners should only practise within the boundaries of their training/experience. This does lead to a variation in the level of accreditation, but we have to recognise that immediate care is such a huge subject, covering a vast geographic environment, that it would be foolhardy to expect a large number of highly trained, experienced individuals to be instantly and constantly available throughout the UK.

If immediate care is going to progress, then our association, apart from supporting the examination system, would wish to see the

development and implementation of a competency based accreditation system. This would allow individual practitioners to develop their skills along the line that was of particular interest to them and of relevance to their own individual practice. If enough practitioners registered on a competency based system in a particular area, then cover could be sustained, tasking would be appropriate, and there could be development of team practice together with team training. Individuals with a declining skill base could be supported through sparse times, and local schemes would become empowered to make treatment and management recommendations based on hard evidence of good practice rather than an aging examination certificate. This approach does not hinder the few who wish to make a primary career of pre-hospital medicine, who should follow a pathway similar to that described by the authors in the manuscript, thereby becoming the true "consultant" in this field.

Finally, our association has, on a number of occasions, examined the terminology of the title of this sub-specialty. We have remained with the term "immediate care", as we believe that this most accurately describes the work that our membership undertakes. Although there was some confusion with "intermediate care", this now seems to have passed, following some careful explanation of the differences. The terminology proposed by the authors of "Pre-Hospital and Retrieval Medicine" would seem to limit the scope of practice and is also open to misinterpretation. However, we do support the proposal of a specialty recognised for its true worth and value in saving and preserving life in this complex, unpredictable, and difficult environment.

Competing interests: none declared

Debate

PREHOSPITAL CARE

Commentary from FAEM

A McGowan

Drs MacKenzie and Bevan are to be congratulated for producing a thoughtful and thought provoking article. They present a very strong case for further strengthening training and quality assurance of training in pre-hospital and retrieval medicine.

The Faculty of Accident and Emergency Medicine fully accepts the need for ongoing improvement in this area and would be very glad of the opportunity to work together with other relevant bodies to this end.

We are in a time of substantial change in the provision of healthcare in the UK. The paper

accurately identifies the importance of the new Postgraduate Medical Education Training Board and the supervision of a new style of medical education with competencies at its centre.

The paper is inaccurate, however, in stating that license to practise will be specialty specific. This is not the case. The license to practise will be a license to practise as a doctor, not as a specialist.

The changes in supervision of medical education occur at the same time as changes in the provision of healthcare. Reconfiguration of hospital services seems inevitable. Implicit in this

Debate

will be an extra burden of patient transfer from one hospital to another. The burden of providing this service is likely to fall on anaesthetic, critical care, and emergency medical services. The implications of the proposals in this paper for these services need further exploration.

The scale of pre-hospital care is enormous. Almost every day, an ambulance service somewhere in the country will ask for a doctor's help. We should also remember that pre-hospital care will include work with voluntary aid societies, care at equestrian, sporting, and motoring events, and membership of mountain and cave rescue teams.

Voluntary immediate care schemes offer invaluable support to ambulance services, but provision of cover for the whole country is not available, and in the absence of such comprehensive cover, any emergency department may be asked to provide analgesia,

anaesthesia, or a variety of other treatments for a single casualty or major incident. It is difficult to see how this situation will change in the short to medium term. Pre-hospital care must remain an integral part of specialist training in emergency medicine.

This paper clearly identifies the need for rigorous standards, clear curricula, and robust assessment processes in ensuring the necessary competencies for practice in this area. It seems to me to make a better case for strengthening existing curricula and structures than it does for the establishment of a new specialty.

The Faculty of Accident and Emergency Medicine would, however, be very pleased to enter into dialogue with the Faculty of Pre-Hospital Care and other relevant bodies in further exploring this important issue.

Competing interests: none declared

PREHOSPITAL CARE

Commentary from the Royal College of Surgeons of Edinburgh

B Steggles, K Porter, R Fairhurst

The consultation paper by Drs Mackenzie and Bevan is timely, and complements the preliminary work already undertaken by the Faculty of Pre-Hospital Care and the Royal College of Surgeons of Edinburgh to establish immediate medical care as a recognised medical specialty.

This is a complex procedure, and will require the co-operation and support of the relevant stakeholders, academic bodies, and politicians to gain inclusion into the European Specialties Medical Order.

It is anticipated that passing the Diploma in Immediate Medical Care will be the main criteria for entry into what will be up to a 4 year training programme, with the Fellowship in Immediate Medical Care being equivalent to the exit examination in other specialties.

We are also in discussion with "Skills for Health" and other relevant agencies to determine expected competencies in the pre-hospital arena, and the work by MacKenzie and Bevan supports this initiative.

Competing interests: none declared