

Taking Healthcare to the Patient

Transforming NHS Ambulance Services



Acknowledgements

Photos on pages 15, 48 courtesy of Essex Ambulance Service NHS Trust

Cover, 10, 12, 18, 24, 34, 40 courtesy of London Ambulance Service NHS Trust

Cover, 23, 43 courtesy of www.justinedesmondphotography.co.uk

Taking Healthcare to the Patient

Transforming NHS Ambulance Services

Policy	Performance
HR/Workforce	IM & T
Management	Finance
Planning	Partnership working
Clinical	
Estates	

Document Purpose	For Action
ROCR Ref:	Gateway ref: 5133
Title	Taking Healthcare to the Patient: Transforming NHS Ambulance Services
Author	Department of Health
Publication Date	30 June 2005
Target Audience	PCT CEs, NHS Trust CEs, SHA CEs, Care Trust CEs, Foundation Trust CEs, Emergency Care Leads, Ambulance Trust Chief Executives, Chairs, Clinical Directors, Directors of Operations. SHA Directors of Performance
Circulation List	
Description	Report on the outcome of a strategic review of NHS ambulance services.
Cross Ref	N/A
Superseded Docs	N/A
Action Required	N/A
Timing	N/A
Contact Details	Ambulance Policy Emergency Care Team 11th Floor, New King's Beam House 22 Upper Ground London SE1 9BW emergencycare@dh.gsi.gov.uk
For Recipient's Use	

©Crown copyright 2005

First published June 2005

Produced by COI Communications for the Department of Health

The text of this document may be produced without formal permission or charge for personal or in-house use.

www.dh.gov.uk/publications

Contents

Foreword by Lord Norman Warner	1
Foreword by Peter Bradley CBE	3
1 Summary	5
2 Introduction	7
3 Current position	8
4 Vision	14
5 Benefits	25
6 Recommendations	27
7 Conclusion	49
Glossary	50
Annex A: Terms of reference and issues considered	54
Annex B: Summary of views received	55
Annex C: Summary of changes to performance requirements	56
Annex D: List of recommendations	57

Foreword by Lord Norman Warner



This report recognises the huge achievements of ambulance services over the last decade in modernising the care they provide to NHS patients. Like the rest of the NHS, ambulance services in England now provide much faster access to care. Ambulance services consistently reach over 75% of immediately life-threatening (Category A) calls within 8 minutes – a standard that bears worldwide comparison.

Ambulance services are playing an increasingly wide role in the NHS, not just providing a rapid response to 999 calls and transporting patients to hospital (crucial though that is) but becoming a mobile healthcare service for the NHS. Ambulance services are using modern technology and new ways of working to take healthcare to the full range of patient groups – patients who need an emergency response, the far greater number who do not have a life-threatening condition but are seeking urgent advice or treatment, and those whose condition or location prevents them from travelling easily to access healthcare services.

Peter Bradley's valuable report shows how the NHS can build on this success. It sets out a clear strategic direction for ambulance services. Over the next five years, ambulance services will provide a world-class system of call handling and telephone-based clinical advice. They will provide an increasing range of mobile healthcare for patients who need urgent care. They will work as part of the primary care team to help provide diagnostic services and support patients with long-term conditions. And they will of course continue to improve the speed and quality of ambulance responses to 999 calls.

The dedication and skills of ambulance staff have made possible the quality of service that patients experience today, and it will be their continued efforts that turn into reality the improvements that this report recommends. That is why a large part of this report considers how to enable ambulance staff and clinicians to make the most effective use of their skills, develop them further and progress their careers.

Technology will also play an important role in delivering these changes. The proposed new digital radio system for ambulance services will enhance quality of care, and crucially, improve interoperability with other emergency services. The implementation of the electronic patient record will help provide targeted, high-quality clinical care at any location by enabling ambulance services to access information quickly and exchange data with other healthcare providers.

In line with the Government's wider approach, there will in future be fewer national targets for ambulance services. By implementing the recommendations in this report, we will create a clearer focus on ambulance response times for those patients who need a rapid emergency

response and for whom every minute counts. We will also ensure, as we are doing for hospital waiting times, that there are no hidden dimensions to this target. Reported response times will in future capture the full interval from a 999 call being connected to an ambulance control room to an ambulance clinician arriving at the scene. This will better reflect patient experience and act as a driver for improvements in speed and quality of care.

The report makes important recommendations for how ambulance services and the Department of Health can go further in driving efficiency gains. We will support ambulance services in undertaking common capital procurements and in outsourcing appropriate support services, where this will improve efficiency and quality, in line with our approach to improving the efficiency of other parts of the NHS. The report also recommends reconfiguring and reducing the number of ambulance services. This will improve strategic capacity and, over time, release significant efficiency gains that increase the resources available for patient care. Our initial view is that the number of trusts should be reduced by at least 50%. This is consistent with the Government's manifesto commitment to streamline the number of NHS organisations. We will consult the NHS and the public on the future number and configuration of services.

We look forward to supporting ambulance services as they deliver the transformation described in this report and achieve ongoing improvements in service quality and patient experience. We also look forward to wider consultation about how the recommendations in this report can best contribute to the development of out-of-hospital care in England.

A handwritten signature in black ink that reads "Norman Warner". The signature is written in a cursive style with a prominent initial 'N' and a trailing slash at the end.

Lord Norman Warner
Minister of State for NHS Delivery

Foreword by Peter Bradley CBE



Innovations in ambulance service provision over the last few years have produced significant improvements in patient care. During the course of this review I have been pleased to identify numerous examples of excellent patient care, policy and practice across the country. What has also become apparent is that a greater clarity and certainty on ensuring ambulance services are fit for their future purpose is required.

We have a good ambulance service in England made up of hard-working, skilled and dedicated staff. My review, whilst acknowledging the significant improvements already made, identifies a number of current issues that need resolving. The review outlines a clear national strategic vision for the future of the ambulance service. An ambulance service that provides both high quality call handling and clinical advice (**hear and treat**), and safe and effective mobile healthcare (**see and treat**).

This vision ranges from delivering trauma services and urgent care through to supporting people with long-term conditions, on-scene diagnostic services and preventative health promotion. To achieve this vision, we must embrace four key challenges to ensure ambulance services look, feel, deliver and behave differently in future:

- Leadership – clinical and managerial – must be reinforced and developed to create well-managed organisations where **all** staff feel supported, valued, listened to, empowered and involved;
- Education, learning and development for **all** staff must be a priority to ensure they have the appropriate skills, behaviours and knowledge to meet the professional standards expected of them;
- Involving patients and the public in designing future services is essential if we are to successfully meet the needs of our diverse and multi-cultural society;
- Developing effective and enhanced partnerships and teamwork with other NHS organisations, social care providers and the independent sector is crucial to delivering radical improvements for patients.

The recommendations laid out in the review present a route map towards a more pro-active, efficient and dynamic service delivering high quality care that meets patient need. This transformation will be delivered through a focus on five key areas: real leadership to deliver this cultural and clinical change, improving quality and consistency of care for patients, improving efficiency and effectiveness of our organisations and systems, supporting performance improvement, and developing an empowered professional workforce.

The most important test of this review will be whether it enables and supports real long term achievement and improvement. Full implementation of this new vision is challenging. It is difficult to deliver fundamental change whilst also managing current pressures and demands. However, we have a real opportunity to build on the significant improvements of the past few years and to radically improve the services we provide to our patients. We should not – and will not – miss this chance.

A handwritten signature in black ink, appearing to read 'Peter Bradley', with a stylized, cursive script.

Peter Bradley CBE
National Ambulance Adviser

1 Summary

- 1.1** In May 2004, the Department of Health invited Peter Bradley CBE, Chief Executive of London Ambulance Service NHS Trust, to become National Ambulance Adviser and to lead a strategic review of NHS ambulance services in England. This report sets out the review's conclusions. The Department supports these conclusions and will now take forward a programme of work to support the NHS in implementing the main recommendations. The Department will consult further on the implementation of some of the recommendations.
- 1.2** The report sets out how ambulance services can be transformed from a service focusing primarily on resuscitation, trauma and acute care towards becoming the mobile health resource for the whole NHS – taking healthcare to the patient in the community. Ambulance services and NHS communities as a whole have already started this journey. But there is much more to do, and we need to increase the pace and consistency of progress. Best practice needs to be adopted faster and innovation needs to become a systematised part of how ambulance services do business with their health and social care partners.
- 1.3** The vision set out by the reference group (see **section 4**) is that over the next five years ambulance services, working with patients and the public, will:
- improve the speed and quality of call handling, provide significantly more clinical advice to callers (**hear and treat**), and work in a more integrated way with partner organisations to ensure consistent telephone services for patients who need urgent care;
 - provide and co-ordinate an increasing range of mobile healthcare for patients who need urgent care (**see and treat**);
 - provide an increasing range of other services, e.g. in primary care, diagnostics and health promotion;
 - continue to improve the speed and quality of service provided to patients with emergency care needs.
- 1.4** The benefits of delivering this vision (set out in full in **section 5**) include:
- Patients will receive improved care, consistently receiving the right response, first time, in time;

- More patients treated in the community, and potentially one million fewer unnecessary A&E attendances;
- Greater job satisfaction for staff as they use their additional knowledge and skills to care for patients;
- More effective and efficient use of NHS resources;
- Improvements in self care and health promotion.

1.5 The reference group has made recommendations in five areas (see **section 6**) about how this vision should be achieved. These will form the basis of a national programme to support the NHS in transforming ambulance services:

- A** Improving leadership, both clinical and managerial, so that organisation structure, culture and style match new models of care.
- B** Improving the consistency and quality of care provision.
- C** Improving efficiency and effectiveness.
- D** Supporting performance improvement.
- E** Developing the workforce.

2 Introduction

- 2.1** In May 2004, the Department of Health began a strategic review of NHS ambulance services in England, led by Peter Bradley CBE, National Ambulance Adviser and Chief Executive of London Ambulance Service NHS Trust. Peter was supported by a stakeholder reference group whose remit (see **Annex A** for terms of reference) was to review the role of ambulance services, taking account of wider changes to urgent care services, and to resolve some specific operational issues.
- 2.2** The reference group took into account previous work undertaken by a range of groups looking at the provision of ambulance services and urgent care, and consulted a large number of stakeholders throughout the review period, including ambulance staff, other NHS organisations and professionals, trade union representatives, patients and patients' representatives.
- 2.3** This report sets out the reference group's conclusions on:
- the current position (**section 3**);
 - the vision for the future role of ambulance services (**section 4**);
 - the benefits of delivering this vision (**section 5**);
 - the five sets of underpinning reforms needed to deliver the vision (**section 6**).
- 2.4** The report and recommendations are based on the simple principles that ambulance services should:
- be designed around the needs of the patient;
 - be designed around the care they provide;
 - work in an integrated way with other health and social care providers in their local area.

3 Current position

Improved service

3.1 Ambulance services have changed significantly in the past decade. There have been big improvements in response times for 999 calls, in training and quality of care, in the standard of vehicles, equipment and technology in control rooms and ambulances. There has been an increased emphasis on clinical outcomes, particularly for acute coronary syndrome and cardiac arrest. The paramedic drug list has expanded, national clinical guidelines have been developed and adopted, and ambulance staff have taken on new and wider roles to improve the quality of patient care. These changes have had positive results. In the most recent national patient survey, 98% of patients were overwhelmingly satisfied with the service and care they received.¹

Changing needs and roles

3.2 Nationally, ambulance service demand is rising by around 6-7% a year. This equates to an extra 250,000 responses a year. This highlights the need to address both the way ambulance services are commissioned and organised, and the effectiveness and efficiency with which ambulance trusts use their resources.

3.3 Traditionally ambulance services have been primarily perceived as an emergency service. Training and service provision have been organised around the needs of patients with life threatening emergencies, with severe breathing difficulties, acute coronary syndrome or suffering major trauma.² The emphasis has been on life support – stabilising the patient’s condition sufficiently for rapid transport to hospital for definitive care. Ambulance technician and paramedic training has focused on trauma, with double-crewed traditional ambulances being the primary method of service delivery.

3.4 However, only 10% of patients ringing 999 have a life-threatening emergency. Many patients have an urgent primary (or social) care need. This includes large numbers of older people who have fallen in their homes (around 10% of incidents attended), some with no injury; patients with social care needs and mental health problems; and patients with a sub-acute onset of symptoms associated with a long-term condition such as diabetes, heart failure and chronic obstructive pulmonary disease (around a further 10% of incidents attended).

3.5 Ambulance services have changed their traditional approach and are now more embedded in urgent care as a whole, for instance providing out-of-hours primary care and making referrals to other healthcare professionals. This review has already resulted in

1 2004, Healthcare Commission

2 Lendrum K et al, (2000) *Does the training of ambulance personnel match the workload seen?*, Pre-Hospital Immediate Care, 4:7-10

changes to the performance regime for non-urgent (Category C) calls, which will help avoid automatic ambulance responses in cases where patients can be treated more effectively in other ways. It has also led to standardisation in how calls are prioritised with all ambulance trusts now required to provide the same level of response to similar calls.

- 3.6** Through the roll out of pre-hospital thrombolysis and improved response times for Category A calls, the ambulance service is playing an important role in reducing the time to treatment for people suffering from a heart attack. The CHD National Service Framework standard is to treat people thought to be suffering from a heart attack within 60 minutes of them calling for help. Data for 2003 based on 243 patients given pre-hospital thrombolysis by paramedics in 14 trusts recorded that 92% of patients with ST elevation myocardial infarction (see glossary) were treated within the 60 minute standard.³ The total number of patients given pre-hospital thrombolysis was 2,136 at end of March 2005 and 27 trusts now have paramedics trained to do this. Numbers are increasing each quarter.
- 3.7** Over the past five years there has been substantial investment in defibrillators in both ambulance services and in public places. This, coupled with significant improvements in ambulance response times and in the identification of a cardiac arrest⁴ during a 999 call (15% prior to the introduction of call prioritisation, now 65%), means patients receive advanced life support and cardiac care more quickly than ever before. We need to ensure that this investment and response time improvements move ambulance services towards achieving world class levels of survival from out of hospital cardiac arrest.

Emergency planning

- 3.8** Since the events of 11 September 2001 ambulance services have also significantly enhanced their emergency planning and preparedness capability in a number of key areas. These include increased numbers of trained managers and frontline staff and significant investment in equipment and personal protection for staff. The ambulance service has continued to work with the emergency services and other agencies to ensure that the public are protected and supported, whatever the threat or disaster.

3 2003 National Clinical Audit Report *Patients identified as having ST segment elevation*, Ambulance Service Association and Joint Royal Colleges Ambulance Liaison Committee

4 A Heward, M Damiani, C Hartley-Sharpe; Does the use of the Advance Medical Priority Despatch System affect cardiac arrest detection?; *Emergency Medical Journal* 2004; 21:115-118

Issues

- 3.9** This progress is highly encouraging but there are a number of specific issues that need addressing. There are also areas where ambulance services can make a far more significant contribution to NHS service provision and improved patient care.



Strategic capacity and effectiveness

- 3.10** There are now 31 ambulance services, compared with 46 in 1990. Larger organisations have reduced duplication of resource (for example in border areas) and increased management capacity. However, there is still scope for greater efficiency in the use of NHS ambulance resources. The introduction of payment by results and contracted services will mean that services need to achieve greater value for money and cost efficiencies.

Leadership and organisational culture

- 3.11** While ambulance services have been effective at delivery, there has been less investment in development for front-line staff, managers and leaders. This lack of emphasis means ambulance services often work harder rather than smarter. The urgent overrides the important. It is evident that investing in the clinical development of front-line ambulance staff can yield significant returns for the whole health economy in terms of increased patient satisfaction and improved health outcomes.⁵

5 *The ECP Report: Right Skill, Right Time, Right Place*, NHS Modernisation Agency 2004. See also section C4 of this report.

3.12 In addition, investment in human resources and development in some ambulance services is comparatively low, largely as a result of capacity, but sometimes because of organisational priorities. Managers may in the past have been appointed as a result of their clinical/operational expertise and experience rather than their ability or desire to be a leader and manager. Whilst clinical and emergency planning roles are seen to require professional qualifications, management is often perceived as something that can be learned on the job. Leadership and organisational management expertise must receive an increased level of attention and investment if the ambulance service is to fulfil its potential.

Improved call handling and clinical advice

3.13 It is also essential that ambulance services continue to respond to justified public expectations that serious emergencies will get a rapid response. This means further improvements in the triage, treatment and transport of patients with immediately life-threatening conditions. This includes the need for continued efforts to improve equity of Category A response time performance by hour of day, day of week – and between geographical areas. There should also be a far greater focus on 999 call handling, including the speed with which the call is answered and quality of the advice given.

3.14 Ambulance services are now providing much more telephone-based assessment and telephone advice to patients with non-urgent conditions. Evidence suggests that telephone advice is safe, cost effective and acceptable to patients.⁶ However, there needs to be greater clarity about the most effective way to provide high quality, consistent clinical telephone advice, using the most clinically appropriate staff and support software across all telephone-based advice providers.

3.15 Furthermore, there needs to be a significant improvement in the speed with which 999 calls are answered, and in the overall clinical support and governance arrangements in ambulance control rooms. Currently ambulance services categorise approximately 30% of their calls as Category A when in fact only around 10% are truly life-threatening. Clearly there is a need to over-prioritise in order to provide a safe response and manage risk; but this needs to be balanced with the risk to public safety of having ambulances driving unnecessarily at high speeds. Work needs to continue at pace to build an evidence base so that categorisation of calls can reflect as safely as possible the needs of patients.

⁶ Dale J, Williams S, Foster T, Higgins J, Snooks H, Crouch R, Hartley-Sharpe C, Glucksman E, George S, Safety of telephone consultation for “non-serious” emergency ambulance service patients. *Quality & Safety in Health Care*, 2004 Oct; 13(5): 363-73

Inconsistency in how standards are measured

3.16 There is some inconsistency in the application of national ambulance performance requirements and it is becoming increasingly inappropriate to judge responses to non-Category A calls exclusively on the basis of response times rather than clinical outcomes and the care given to the patient.

Differing models of care needed

3.17 Many 999 patients are still taken to hospital when they could safely receive advice, assessment, diagnosis, treatment and/or care closer to home or over the phone. Many ambulance services are still putting a paramedic on every ambulance (following 1990 guidance⁷) when models of care now evidence the need for a different skill mix. Ambulance services are increasingly reflecting this with the use of single responders, use of volunteers (both clinicians and members of the public with appropriate training) and greater use of intermediate tier resources. There is more scope for increasing the flexibility and types of responders ambulance services despatch, working in a more integrated way with other urgent care providers.



⁷ See Health Service Guidance (91)29 “Ambulance and other patient transport services: operation, use and performance standards”, and Executive Letter (90)219 “the Modern Ambulance Service”

Wider contribution to NHS services

- 3.18** There is an ongoing shift in the NHS towards community-based primary and secondary care services. Whether they need urgent or planned care, patients should increasingly receive advice, assessment, diagnosis, treatment and care in or close to their homes, particularly in rural areas where there may be greater difficulty accessing traditional secondary care services. As a mobile health resource, able to provide an increasing range of assessment, treatment and diagnostic services, the ambulance service should be playing a greater role in providing care closer to home.
- 3.19** The Department of Health's current Public Service Agreement includes a target to improve the care of patients with long-term conditions and reduce emergency bed days by 5% by 2008 through improved care in primary and community settings. Ambulance services – with a wide range of mobile health services at their disposal – are well placed to play an increasing role in contributing to the management of acute episodes in the community, supporting case managers in co-ordinating and providing care to complex, vulnerable patients who are most at risk of unplanned admissions.
- 3.20** Local health economies need to look at commissioning and funding of urgent care as a whole to establish how far current models of service provision should continue and where they need to change. For example, currently 77% of emergency calls results in an emergency patient journey, mostly to A&E. Of those patients, surveys indicate that around 40% are admitted while at least 50% of these could be cared for at the scene or in the community. Achieving this would require changes in ambulance skill mix and better ambulance service access to community facilities and health and social care professionals.

Looking forward

- 3.21** There are a number of areas where the ambulance service could make an even greater contribution to patient care and to delivering services in an even more efficient and effective way. A new vision is needed.

4 Vision

4.1 The vision set out by the reference group – and endorsed by the Department – is that over the next five years, ambulance services, working with patients and the public, should:

- Improve the speed and quality of call handling, provide significantly more clinical advice to callers, and work in a more integrated way with partner organisations to ensure consistent telephone services for patients who need urgent care;
- Provide and co-ordinate an increasing range of mobile healthcare services for patients who need urgent care;
- Provide an increasing range of other services, e.g. in primary care, diagnostics and health promotion;
- Continue to improve the speed and quality of service provided to patients with emergency care needs.

Ambulance services should improve the speed and quality of their call handling, provide significantly more clinical advice to callers, and work in a more integrated way with partner organisations to ensure consistent telephone services for patients who need urgent care

Key points

- 4.2** There should be greater quality and consistency of call handling both within ambulance services and across urgent care, including consistent prioritisation of calls. Ambulance services should work to common call standards with other urgent care providers so that there is consistent quality and speed of response however the patient contacts the NHS.
- 4.3** There should be a standard competency framework and core training syllabus for call-handling staff.
- 4.4** There should be significantly improved clinical supervision, support, audit and quality assurance in ambulance control rooms to provide clinical direction and advice.
- 4.5** The reference group supports further action to simplify access to urgent care, ensure better integrated provision of clinical telephone advice and support patients in making the right choice for their needs. The group supports the concept of more highly trained clinical professionals providing telephone advice with appropriate decision support but recommends further research to compare the two approaches and also to establish the level of medical support necessary to maximise the effectiveness of the advice.
- 4.6** The reference group supports PCTs working with other local partners to move towards integrated commissioning of urgent care services. Similarly where there are opportunities for integrating provision of urgent care, they should be actively



pursued. This should be facilitated through improving contestability of urgent care provision by making the provision of clinical assessment by NHS Direct an optional service for PCTs to commission.

Background

- 4.7** Ambulance services need to improve the speed with which the telephone is answered and the clinical advice given to patients and callers, who following initial triage are found not to need an immediate response. Where the incident can be dealt with by providing telephone advice, this advice should be high quality and consistent with clinical advice provided by telephone elsewhere in the NHS. Where the caller has to be referred to another service, there should be a seamless transfer. The caller should not have to call the other service themselves and should only have to tell their story once. It should be for local agreement how this service is provided. It may be the ambulance service, it may be primary care. The clinical standards of such advice should be audited, including monitoring outcomes across the health economy.
- 4.8** These changes can be supported through the further development of decision support software and rationalisation of the number of software programmes used. Any assessment made over the telephone together with any advice provided should form part of the patient's care record.

Ambulance services should provide and co-ordinate an increasing range of mobile healthcare for patients who need urgent care

Key points

- 4.9 There should be improved focus on the large numbers of patients calling 999 who require urgent primary care and better ways of identifying the 10% who really need an emergency response.
- 4.10 Ambulance services are ideally placed to play a leading role both in providing 'information and response hubs' using real-time information on resource availability and patient flows, and in co-ordinating out-of-hospital mobile resources so that the patient gets the right response – first time and in time.
- 4.11 Potentially at least one million patients (a third of the current total) should be able to benefit from swift advice and treatment at or closer to their home or scene of the incident, rather than being taken unnecessarily to A&E.

Case study: tailoring the response to the patient

The Community Rapid Intervention Service (CRIS) is the product of a joint initiative between West Midlands Ambulance Service NHS Trust (WMAS) and South Birmingham PCT aimed at providing a single point of access to a range of patient care services.

Following the arrival of an emergency ambulance crew, patients who meet the referral criteria may be offered access to the specialist carer most suited to meet their needs. The range of services available includes intermediate care, social services and district nurse specialists.

A nurse clinician agrees with ambulance crew the most appropriate referral option available. In 20% of cases this has been direct referral to one of two local PCT led community hospitals. The majority of referrals however, have resulted in a home visit from a member of the CRIS team.

At present WMAS are referring between 50 and 60 patients each month through the Community Rapid Intervention Service, providing each patient with an enhanced level of care to meet their needs, saving valuable NHS resources through more appropriate utilisation of referral options. The aim is to extend the scheme throughout the West Midlands area.

4.12 Where patients do need to be transported, ambulance services should be able to take them to a greater range of appropriate facilities, including walk-in centres, minor injury units, out of hours primary care centres, or refer them directly to social and mental health services, all of which should have clear and standardised criteria for accepting patients. Where appropriate, ambulance services should also refer patients directly to these centres/services rather than needing to assess them face-to-face first.

4.13 These changes should be backed up by greater clinical decision making during the initial telephone call, so that patients with complex conditions can be given the right advice. Information on available community based alternatives should be held in order to re-direct patients appropriately and support the decisions of ambulance clinicians in the field.



Background

4.14 Ambulance services are designed around delivering resuscitation, trauma and cardiac care to patients who are critically ill and who need life-saving treatment very quickly. Around 80% of training of front-line clinicians is focused on this. Ambulance services do this very well and should strive for continual improvement in dealing with true emergencies such as these. But the majority (up to 90%) of their patients are not this ill. Many require urgent primary care. Ambulance clinicians need to be trained for the case mix they see, both in initial training and as part of their continuing professional development. Many of the patients who receive a fully-equipped, double-crewed ambulance response do not need one. At least one million of the people taken to A&E every year could be treated at the scene, in their homes, or in the community.

4.15 With revised education and training of ambulance clinicians, the number of patients taken to A&E departments by ambulance can and should be significantly reduced. Ambulance clinicians need to be competent, trained and empowered to do this and supported in making decisions for themselves – rather than feeling that they have to

get a second opinion. Appropriate education, guidelines, pathways and clinical support need to be in place locally to enable and support this decision making process. For example, where an ambulance clinician with suitable training has successfully treated a patient with a sub-acute episode of asthma or Chronic Obstructive Pulmonary Disease (COPD), the clinician should be able to arrange any continuing care required in the community and not transport a patient to hospital unnecessarily. Audit of processes and clinical outcomes should be undertaken both to ensure the safety and effectiveness of systems and to see what lessons can be learnt in order to improve services further. Where transport is required this should be arranged by the ambulance clinician. This should not automatically be a double-crewed front-line ambulance, and might be an ambulance car, Patient Transport Service (PTS) vehicle or even, on occasions, private vehicles (where appropriate).

Case study: new ways of working improves patient care

In September 2002, South Yorkshire Ambulance Service NHS Trust (SYAS) launched a Paramedic Practitioner Scheme in Sheffield for people over 65 with the aim to see and treat people at home and to avoid A&E attendance. Paramedics were given additional assessment, treatment and referral skills to deal with a range of minor injuries and falls cases. The scheme was part of a randomised control trial and the full results are due imminently. Key results show high patient satisfaction with over 50% of people seen remaining at home.

Building on this success, SYAS, with partner organisations, developed an Emergency Care Practitioner (ECP) scheme last year recruiting healthcare professionals to deal with a wider range of minor injuries and illnesses. The 24 ECPs support out of hours work, unscheduled primary care through the day and support the 999 system.

- 4.16** Where a health professional needs to be sent to assess and/or treat a patient, ambulance services can act as a response hub – co-ordinating mobile out-of-hospital care so that the most appropriate available resource is sent to the patient. Having one co-ordinator ensures better use of out-of-hospital mobile health resources, simplifies access and enables better navigation through the system.
- 4.17** The patient should be seen by the clinician best placed to help them, and that professional should be equipped to deal with the patient's needs there and then. Systems should be designed to deliver the most appropriate care first time. The treatment should be consistent with that provided by other urgent care health

professionals across the country, using agreed guidance, so that whoever attends a patient can offer the same standard of care.

Case study: right response, first time

Non-urgent (Category C) 999 callers to Kent Ambulance Service NHS Trust are transferred to an unscheduled care desk where an ECP or paramedic can assess the caller's needs and provide them with the most appropriate local service to meet their needs. This could include a GP appointment, either in or out of hours, rapid response nursing, or 24-hour emergency mental health team amongst other options. In addition to better supporting patients this has also improved the dialogue between local clinicians and helped develop more treatment choices for patients. Data for the period May 2004 – February 2005 shows that 5,609 patients were dealt with by the desk. Of these, 39% accepted an alternative to A&E at the time of the call. Before the introduction of the desk, around 90% of patients were taken to A&E. Further work is underway to research full end outcomes for patients transferred to the desk.

- 4.18** A patient record summary should be available to ambulance service staff to assist them with providing targeted, appropriate, quality clinical care. As a minimum, the summary should contain information on:
- the patient's GP, district nurse or other regular provider of care;
 - whether the patient is on the child protection or vulnerable adults register;
 - key medical conditions and critical treatment information (e.g. being treated at hospital while awaiting heart surgery);
 - any medication and allergies;
 - details of how to access the patient's care plan (if there is one);
 - the last five contacts with NHS services and the treatment pathway recommended, to aid decisions about that patient's care;
 - whether the patient is violent or abusive to NHS staff;
 - whether the patient is a regular user of 999 or other urgent care services.

Ambulance services should provide an increasing range of other services, e.g. in primary care, diagnostics and in health promotion

Key points

- 4.19** Ambulance clinicians should increasingly undertake assessments of patients in their homes in partnership with primary care teams. Examples might be those who can not easily travel to access healthcare or those with long-term conditions.
- 4.20** Ambulance clinicians are well placed to undertake many types of home visits on behalf of GPs, both in and out of hours, and help deal with GP same day appointments.
- 4.21** Ambulance clinicians and PTS staff can play an increasing role in undertaking diagnostic procedures in patients' homes, particularly for patients whose condition or transport situation makes it more difficult to access community diagnostic centres or hospitals.
- 4.22** PTS operating hours should be better structured around patient need, e.g. being available to take patients home after day care or surgery so that avoidable overnight or weekend admissions are prevented.⁸ The implications for planned and emergency transport provision should be considered as part of local service planning in order to optimise impact.

Background

- 4.23** Ambulance services have a wider role to play as mobile providers and co-ordinators of out of hospital patient care and diagnosis, working as part of the primary care team, for the NHS as a whole, not just emergency care. Ambulance services can improve their potential in this area and, in so doing, make even more efficient use of their capacity and expertise.
- 4.24** There are benefits to be had in utilising ambulance service skills and expertise across a wider agenda. For instance, ECPs can play an important role in supporting primary healthcare teams and community matrons in managing patients with complex long term conditions, undertaking regular assessment of patients, monitoring them for potential acute episodes, advising them on improving their self-care skills and referring them to specialists/GPs as necessary. This equips the clinician to respond better to these patients' needs during acute exacerbations

8 Rural Proofing for Health: A toolkit for Primary Care Organisations. Institute of Rural Health 2005.

of their conditions. Patient transport services, together with diagnostic services, can be used to help take diagnostic services to the patient.

Case study: using resource differently improves patient experience

In Greater Manchester, ambulance staff visit patients who require blood tests, take the samples and deliver them to the laboratory for testing. This saves nurse and clinic time, as well as saving transport costs for all those patients who would otherwise have gone to hospital for tests. It will be of particular benefit to patients who need regular tests but have mobility difficulties. The Greater Manchester Ambulance Service NHS Trust staff, recruited from PTS staff, will form the first cohort of Assistant Practitioners. This will entail a two year foundation degree in health and social care and will create an agile, flexible and adaptable workforce, able to deliver a range of diagnostic tests within the community.

- 4.25** Using the ambulance service to take health care services to patients in their own homes can release capacity in primary care and diagnostic services. This is particularly true in rural areas,⁹ where necessarily, in order to provide similar response times to emergencies as in urban areas, unit hour utilisation of emergency ambulance resource is often low. Single responders may be attached to GP surgeries in these areas. An example of this is set out in section C (East Anglia).
- 4.26** Further, ambulance services have significant potential to contribute to health promotion and prevention of emergencies. For example, patients with diabetes and asthma are often seen by ambulance services. This provides an excellent opportunity for health promotion and advice on self care, as well as integrating patients' care with their primary care provider. Advice and referral to falls teams is another example of health promotion and injury prevention. Beyond this, referral to substance misuse services, support on work and home safety, and even lifestyle advice could be provided.

⁹ Information from Rural Proofing for Health: A toolkit for Primary Care Organisations. Institute of Rural Health 2005 indicates that PCTs surveyed highlighted that GPs in rural areas carry out increased number of home visits to those patients that may be capable of coming into the surgery but have no means to do so.

Ambulance services should continue to improve the speed and quality of service provided to patients with emergency care needs

Key points

- 4.27** There should be continued improvements in the treatment of major trauma, including increasingly close working with critical care networks to enable rapid transport to a hospital with the staff and facilities to manage major trauma cases.
- 4.28** Pain should be better assessed and pain relief more widely used, particularly with children.
- 4.29** There should be continued improvements in cardiac arrest survival and the treatment of acute coronary syndrome including direct admission to cardiac catheter laboratories and continued roll-out of pre-hospital thrombolysis to treat cases of ST segment elevation myocardial infarction (where eligible) according to locally agreed care pathways.
- 4.30** There should be improved specialist transfer arrangements for emergency inter-hospital transfers including local agreements between ambulance and acute trusts on the equipment to be used.
- 4.31** Rapid admission to stroke units should be agreed locally as protocols for stroke care evolve.
- 4.32** There should be continuing improvement in governance and support for community responder schemes.
- 4.33** The use of doctors to respond to Category A calls should be better supported and governed by ambulance services.



Background

- 4.34** Ambulance services have made improvements in the service provided to patients with immediately life-threatening conditions, most notably with the introduction of advanced cardiac care including pre-hospital thrombolysis. However, there remains scope for improvement and efforts in this regard should not be diluted through

focus on those patients requiring urgent primary care. For example, clinical audits have demonstrated that pain management needs to be improved. In 2003, only 27% of patients suffering ST elevation myocardial infarction were given pain relief by ambulance services.¹⁰ While this is an improvement on previous years, it still requires close attention. Patients are taken to A&E who could benefit from being taken rapidly to specialist units e.g. appropriate stroke patients. Research also shows that outcomes are improved for suitable patients with acute coronary syndrome if they receive primary angioplasty within 90 minutes of collapse and therefore direct admission to cardiac catheterisation laboratories should be explored where those services are available locally.

4.35 Ambulance services as the ‘emergency arm of health’ are now playing a leading role in developing an integrated health service response to the management and resolution of both ‘rising tide’ (e.g. flu pandemic) as well as conventional terrorist type incidents. It is important that during the development of ambulance services over the next decade careful account is taken of their primary role in the context of civil contingencies and in particular responsibilities under the Civil Contingencies Act.

4.36 There also needs to be a greater emphasis on developing local agreements for rapid referral of patients where there is evidence of improved outcomes the earlier the treatment takes place, e.g. for stroke or heart attack. For example, ambulance services are playing an important part in beginning to develop primary angioplasty (angioplasty given as a first or emergency treatment for heart attack). Seven national pilots are exploring the feasibility of rolling out primary angioplasty as a country-wide service as an alternative to giving thrombolysis for patients with an ST segment elevation myocardial infarction (see glossary). Other services are developing outside the pilots. As for thrombolysis, primary angioplasty has greater benefit the earlier it is carried out after onset of symptoms of a heart attack. Increasingly ambulance clinicians are taking the decisions on patients’ suitability for primary angioplasty and referring suitable patients directly to the cardiac catheter laboratory rather than taking them to A&E for assessment.



10 2003 National Clinical Audit Report *Patients identified as having ST segment elevation*, Ambulance Service Association and Joint Royal Colleges Ambulance Liaison Committee

5 Benefits

- 5.1** This vision will deliver five main benefits for patients and their families, health and social care professionals and the NHS.
- 5.2** First, **patients will receive improved care and experience from consistently getting the right response, first time, in time.** Patients and callers will only have to tell their story once, with the information recorded in their electronic patient record. They will either receive clinical advice over the telephone or be attended by a health professional with the skills, equipment and education to complete the case or refer to an appropriate health provider. If treated at home, notification of the entry into the patient's care record will be sent to the patient's GP.
- 5.3** Second, **up to one million fewer patients will face unnecessary A&E attendance** and potentially unnecessary admission to hospital. Provisional figures suggest that some 200,000 patients with long-term conditions, many of them older people, could be treated at home.¹¹ Implementation of the electronic patient record will mean that the patient's GP and/or community matron will be aware of the care episode immediately and can use that knowledge to tailor the management of that patient, and that ambulance clinicians can use the electronic patient record to ensure that the care provided is appropriate and tailored to the patient's condition.
- 5.4** Third, there will be **greater job satisfaction for staff** as they are able to use their additional knowledge, experience and skills in full, caring for patients themselves rather than having to pass them on to another professional or care provider. Changes to the skill-set of ambulance clinicians, coupled with provision of training and education in a manner consistent with other clinicians, will mean that skills are more transferable, giving greater career opportunities across the wider NHS.
- 5.5** Fourth, there will be **better, more effective and efficient use of NHS resources** through:
- Increased case completion at the point of contact – both on the telephone or face to face – improving patients' experience and care and reducing downstream costs;
 - Development of a highly skilled and flexible workforce working across emergency and urgent care thus reducing agency costs and utilising the ambulance services as a recruitment base for the whole NHS;
 - Increased use of joint procurement and appropriate outsourcing and increased strategic capacity through having larger ambulance services;

¹¹ based on indicative figures from London Ambulance Service NHS Trust extrapolated for England from 2004/05 data

- Reduced level of double-crewed ambulance responses to non-life threatening calls;
- Reduced duplication between urgent care providers;
- Released capacity in primary care and diagnostic services;
- Improved use of existing patient transport services out of hours.

5.6 Fifth, there will be **improvements in self-care and health promotion**, through consistent provision of telephone and at-the-scene advice and pro-active primary care and diagnostic screening at the patient's home, and through integrating ambulance service patient care with that of primary healthcare teams.

6 Recommendations

The reference group has made the following five sets of recommendations, which will now form the basis of a national programme to support the NHS in achieving this vision:

- (A) Improve leadership, both clinical and managerial, so that organisation structure, culture and style matches new models of care
- (B) Improve the consistency and quality of care provision
- (C) Improve efficiency and effectiveness
- (D) Support performance improvement
- (E) Develop the workforce

A: Improve leadership, both clinical and managerial, so that organisation structure, culture and style matches new models of care

- A1.** A central theme running through and underpinning all the group's recommendations is the need to transform ambulance services as organisations, both culturally and clinically, and to improve commissioning of ambulance services and cross-organisational working.
- A2.** Local implementation plans should address the organisational capacity and capability needed to deliver the recommendations set out in this report. Ambulance services need to be:
 - large enough to provide high quality clinical leadership, financial, operational and human resource management, together with clinical and quality assurance;
 - working in close partnership with other local NHS organisations, playing a key role in delivering shared improvements in patient care;
 - linked to other clinical networks such as CHD and cancer, and following national best practice on clinical audit and research, including continued development of clinical guidelines appropriate to ambulance services but also linking to other local providers;
 - using technology, information and best procurement practice to improve efficiency and effectiveness;
 - led in a way that promotes collaboration, builds networks and encourages management and staff development both within the organisation and across the local health and social care community;

- managed in a way that promotes staff and patient involvement and empowerment, innovation and improved patient outcome.
- A3.** Ambulance services need to be commissioned in a way that encourages shared ownership of urgent care across the healthcare system and a single view of urgent care requirements and priorities for an area. Ambulance services should be commissioned by a consortium of PCTs with agreed decision-making rules and a lead commissioner. This is often already the case but needs to become standard. Joint commissioning of NHS Direct, out of hours services, and other urgent care services will help to achieve an integrated service approach for emergency and urgent care.
- A4.** The impact that ambulance services can have on improving patient care is more significant than ever. This requires a very different relationship with patients, the public and other health and non-healthcare agencies. Ambulance services need to look, feel and behave differently. Improving skill levels and introducing greater career progression opportunities will be a vital ingredient of this change but it will not be enough. To achieve higher levels of job satisfaction in a positive culture of continuous improvement requires strong leadership and effective management which ensures that all staff feel well informed, supported, valued, listened to and involved in the future development of their organisation and their profession.

Case study: organisational development

In 2000, London Ambulance Service NHS Trust launched a five year service improvement programme aimed at making demonstrable improvements in performance, patient care and for its staff's working lives. The service is on track to achieve 39 of the 40 outcomes (under the headings people, performance and patients) it set itself by the end of the programme in March 2006. Although the climate in the organisation changed, the service was looking to create an organisation that looks, feels and behaves differently. To achieve this cultural change, in 2002 the service developed an organisation development strategy to underpin the delivery programme.

The strategy has six key principles and was regarded by the Modernisation Agency as the best organisation development strategy in the NHS:

- *Communication;*
- *Staff involvement and empowerment;*
- *Modernisation and service redesign;*
- *Management capacity and capability;*
- *Vision and values;*
- *Structures and systems.*

The service is making good progress in each of these areas, evidenced by staff survey results which are showing year on year improvements. In 2000 only 16% of staff thought that the results of the survey would lead to change; by 2004 this had increased to 80%.

- A5.** The Department should fund a programme of management and leadership development for ambulance staff, having first commissioned research to understand development needs.
- A6.** Ambulance service leaders need to continue to encourage a change in the style of management and managing in ambulance services. There needs to be a continuation of the move away from the ethos of ‘command and control’ and positional based power (which is still reflected in poor staff survey results compared to other parts of the NHS) that has been taking place over the past few years. Ambulance managers need to continue to focus on their own development as professional healthcare managers, understand the impact that their services can have on patient outcomes (not just in emergency care, but primary care) and work with their colleagues to enhance quality of care. Leadership needs to focus more fully on cross-organisational team work, building relationships, and coaching and supporting staff to improve patient care.

Case study: cultural transformation through leadership development

Tees, East and North Yorkshire Ambulance Service NHS Trust (TENYAS) received a leadership development award from the NHS Modernisation Agency Improvement Partnership for Ambulance Services for their project, 'Living the Vision'.

This project aims, through a cascade process, to transform the culture to a more positive and energised organisation – ensuring the Trust's standards and concepts permeate the organisation. The intention is to build honest and supportive relationships and get results in terms of improved team performance, morale and improvement in patient care. The project challenges perception, behaviours and values in an inspirational manner rather than a directional way, building on sincerity, diversity whilst offering a life changing way of working.

Currently 51 people have participated in the project's course (spanning all management levels) designed to equip them with the ability to deliver the vision by living the vision

Chief Executive Jayne Barnes CBE commented that she "was very conscious that the organisation over the years had been through a lot of change and it had been a very unsettling time. Five Chief Executives and seven Chairs over a relatively short period of time is good going for any organisation. When we were tendering for management training, I really was looking for something different. A new way of looking at management and leadership, that not only taught the theory but challenged perceptions, behaviour and discussed integrity. It is early days but already I can see a difference in the organisation."

- A7.** Ambulance services need to play a full and active part in emergency care networks, including charring networks where appropriate. To support the developments recommended in this report, networks should identify ways of freeing up more time and resource to look at strategic issues such as planning, commissioning, funding and whole-system performance indicators. Constituent organisations should ensure that networks have dedicated support to facilitate local action.

B: Improve the consistency and quality of care provision

- B1.** There needs to be consistent methods for capturing the quality of the care that ambulance services and urgent care as a whole provides. The NHS needs to be able to demonstrate to patients that they are receiving better care as well as quicker care.

- B2.** In some cases, these measures may focus on whether ambulance services themselves are providing high quality care (e.g. return of circulation for patients suffering a cardiac arrest). But there also need to be far better measures to capture the quality and outcome of the whole care episode, so that outcome measures become truly patient focused. Measures of patient outcome and experience should be used to promote evidence-based practice and assess how far ambulance services and local health economies are delivering high quality care.
- B3.** The development of measures of clinical quality needs to be embedded into the full spectrum of ambulance service provision, i.e. across emergency, urgent and primary care. This should be directly linked to National Service Frameworks and to guidance issued by organisations such as the National Institute for Clinical Excellence (NICE) and the Joint Royal Colleges Ambulance Liaison Committee (JRCALC). It is equally important that clinical quality development is embedded in the work of networks, e.g. through locally agreed standards for clinical practice.
- B4.** Ambulance services are all engaged in some form of clinical audit or they measure improvements in service provision against standards. However, many ambulance services are too small to employ clinical audit specialists who can spend 100% of their time on this work. There is evidence that clinical audit in ambulance services and along patient pathways can improve standards and outcomes of care.¹²

Case study: using clinical audit to improve quality of care

North East Ambulance Service NHS Trust (NEAS) is implementing an audit tool, known as WISDOM, which is designed to assist A&E team leaders to monitor and evaluate the day-to-day performance of ambulance staff. WISDOM combines two large databases; the NEAS command and control system and the NEAS clinical audit system to produce a set of pictorial representations of full-service, team and individual performance from which comparisons can be made.



Courtesy of North East Ambulance Service NHS Trust

12 2003 National Clinical Audit Report *Patients identified as having ST segment elevation*, Ambulance Service Association and Joint Royal Colleges Ambulance Liaison Committee

By questioning, discussing concepts and critically appraising the underpinning evidence-base staff at the NEAS can drive up the quality of its clinical performance so that all patients in the North of England benefit from an equitably high standard of care and will experience an improvement in clinical service delivery.

Case study: using evidence to improve patient outcomes

Greater Manchester Ambulance Service NHS Trust (GMAS) considered the geography of their local health economy, and worked with the local emergency departments when deciding the best local approach to thrombolysis. Use of a geographical information system to produce isochrone maps showed that it was possible to reach an acute care provider within 12 minutes from most locations within the conurbation. Furthermore it was known that good control protocols and excellent category A response times meant that an ambulance was on scene within 8 minutes of a call some 80% of the time. Thus keeping on-scene times to 10 minutes or less would mean that GMAS could deliver the patient to an acute care provider within 30 minutes in most cases. This rapid recognition and transportation model was successfully adopted, and has been enhanced by pre-alerting hospitals when an ambulance is due to arrive, and a no-stop pre-hospital “Stick and Flick” approach to 12-lead ECG acquisition.

In the past twelve months 80.34% of patients in Greater Manchester requiring thrombolysis have received it within 60 minutes of making a 999 call: an outcome that bears world-wide comparison.

In more rural areas, audit and analysis have shown that the CHD NSF standard of treating patients thought to be suffering a heart attack within 60 minutes of calling for help may be better achieved through training paramedics to administer thrombolytic drugs. In Dorset and Somerset SHA, good progress has been made on reducing the time to treatment and the target (to increase proportion of people treated within 60 minutes by 10% points per annum) has been exceeded for 2004/5. Much of this success has been attributed to pre-hospital thrombolysis given by Dorset Ambulance Service NHS Trust and, more recently, West Country Ambulance Service NHS Trust paramedics.

- B5.** Until now, practical constraints have meant that proxy measures, such as how quickly a response arrives with the patient, have been used to assess whether ambulance trusts are providing quality patient care. Greater understanding of clinical best practice and technological advances (which reduce the burden of collecting and

analysing information) will make it possible to increasingly assess ambulance trusts on the quality of the care they provide, not just how quickly they get to the patient. Examples of this include the national CHD audits, the national requirement to have a call to needle time within 60 minutes for patients suffering from heart attack, and the more widespread use of locally set clinical performance indicators.

- B6.** The development of a comprehensive range of clinical standards cannot happen overnight. The evidence base needs to be further improved and the Electronic Patient Record and Secondary Uses Service successfully implemented, as this will ease many of the current constraints on audit. The Department of Health should commission a programme of work for the next three to five years to build the evidence base, facilitate professional consensus, and develop a set of clinical and outcome indicators to provide external accountability and inform internal quality improvement frameworks. Where possible, these should be whole-system indicators. Development should be undertaken in phases according to priority, and availability of evidence and data.
- B7.** There is increased provision of ambulance services by the independent sector on behalf of the NHS. The Department of Health should support the NHS in taking further steps to ensure that services provided by the independent ambulance sector on behalf of the NHS are of at least as good quality as those provided directly by the NHS, and that there is a clear distinction between providers through use of branding and livery. The NHS should ensure that existing standards and legislation are consistently enforced through contractual arrangements with the independent sector. The Department should support services by putting in place a system of accreditation of independent ambulance providers.

C: Improve efficiency and effectiveness

- C1. Strategic capacity.** Clinical governance reviews have shown that more needs to be done to improve strategic capacity, particularly in smaller ambulance services. If ambulance services are to fulfil their full potential, they need to be of a size to attract high calibre senior managers and leaders to transform their organisations. There needs to be continued, sustained investment in HR, service development and clinical leadership to ensure that services are able to deliver the changes recommended in this review.
- C2.** For these reasons, there are likely to be benefits from having significantly fewer, larger services. The reference group's assessment is that there should therefore be a

reduction in the number of ambulance services broadly in line with SHA boundaries. Precise decisions on the configuration and number of services should be made after consultation with the NHS and the public to ensure that configuration reflects local operational requirements.

C3. New models of service delivery. Modelling the impact of new models of service delivery indicates that over a five year period, additional investment in training and equipping ECPs and other ambulance clinicians would yield efficiency gains for the health economy as a whole. The annual efficiency gains for urgent and emergency care could be between 15 and 30% higher with the appropriate use of ECPs as first responders. This is a conservative estimate as it does not take account of a potential additional savings associated with delivering high-level clinical advice by telephone instead of a responder to the scene, possible reduced hospital admissions, or the savings generated by using ambulance services to provide primary care services.

C4. Effective use of technology.

Implementation of the NHS *Connecting for Health* electronic patient record should mean that there is capability for ambulance staff to increasingly have the necessary information to provide appropriate patient care. The patient care record summary eventually should be available at the point of care. Work should be undertaken to establish the degree to which this can

currently be achieved and the connectivity medium the ambulance clinician at the scene and the NHS care records service to make this a reality. Ambulance trusts should also be able to access scheduling systems so that response hubs can be fully effective, with the staff able to see which appropriate clinicians are available to visit the patient in question and agree that with the clinician and patient.



- C5. Capital procurements.** It is clear that further savings and improvements in quality can be made through single procurements and appropriate outsourcing. For example, a study of contracts with software providers found 100% variation in the value of contracts with ambulance services and significant variations in the benefit received by ambulance services from the terms and conditions of the contract.
- C6.** Action is already being taken to address this through the introduction of procurement hubs and national procurements. For example, a single vehicle chassis procurement by the Department of Health on behalf of ambulance services has saved the NHS £2.4 million in 2003/04 alone. It is anticipated that the single procurement of digital radio systems by the Department of Health on behalf of ambulance services will save money compared to individual contracts, and will bring further benefits in terms of standardisation and integration between ambulance services and with other emergency services. It will also be the first time that there has been interoperability between the emergency services.

Case study: using new technology to improve quality of care

Hereford and Worcester Ambulance Service NHS Trust is one of the first NHS organisations to utilise the digital radio network infrastructure.

This digital network is a secure network capable of transferring data from an ambulance via the control room and on to hospital. The Trust has utilised the radio network to deliver a complete Patient Informatics System that ensures information is instantaneously captured from the patient in the ambulance and transmitted to the appropriate A&E department or coronary care unit. The key components of the project include:

- control room operators can send or update incident details to a display screen in an ambulance preventing vital time being lost getting to the patient because of a mis-heard address;*
- locate an ambulance using Global Positioning Systems (GPS) located on the ambulance. This enables the quickest route to the patient to be plotted;*
- paramedics can confirm they have received the incident details, inform the control room when they have reached the patient and send details of their subsequent actions;*

- *generation and completion of the electronic patient record – completed automatically by the information received from the Trust's 999 dispatch centre. Where the patient is taken to hospital, this is then accessed by the three acute trusts in the area via hospital based computer terminals, creating one patient record for the health community;*
- *patient's vital signs can be transmitted in real time from an ambulance enabling consultants and hospital staff to analyse them and to authorise paramedics to administer life-saving thrombolytic drugs to heart attack patients. Over 150 patients have now benefited from this technology – in one instance a patient was treated within 16 minutes of calling for an ambulance and most are treated within the 'golden hour'.*

- C7.** The Department of Health should explore the scope for further efficiencies through national procurement and outsourcing of appropriate support services by reviewing common capital procurements particularly for fleet, but also potentially for other aspects.
- C8. Matching supply and demand.** Ambulance services need to become more rigorous and sophisticated in matching supply to demand, particularly given the consistent year on year increases in demand. Services need to ensure that they are constantly monitoring demand and adjusting workforce plans and vehicle deployment accordingly. If resources are properly matched to demand, response times – and therefore survival rates for those patients who are critically ill – will improve. The Department of Health should ensure that support is made available (or commissioned) to services in achieving optimum call activation, mobilisation, resource production and distribution, recognising that this will vary with rural and urban models. The Department should also support services to understand and analyse their demand. Commissioners need to recognise the impact of increases in activity as well as striving for increased efficiency.

Case study: understanding demand improves response times and efficiency

Predicting demand, standing ambulances appropriately and activating quickly are all important factors in increasing efficiency. Staffordshire Ambulance Service NHS Trust introduced the 'high performance ambulance service' concept in November 1994, a system developed in Kansas City, USA, almost 20 years ago. The concept is based on the principles of total quality management and is designed to provide good response times at a lower cost than traditional services.

One of the main changes introduced by the service was to adopt a 'System Status Plan': previous calls are analysed by hour of the day and day of the week for a predetermined period to predict where the available ambulances should be positioned to react to expected demand. The system uses the technology of automatic vehicle location, mobile data, and a computer-aided despatch system that can accurately and safely determine which calls are life-threatening.

With ambulances being continually moved by control to standby positions indicated by the system, and with the right number of crews on duty every hour of the day, the service is optimising its resources, as evidenced by the highest, most consistent response times in the country.

- C9. Staff deployment.** Ambulance services generally do not have recruitment problems. However, early retirement issues can sometimes arise as staff may no longer be able to undertake front-line duties that involve heavy lifting and carrying. Flexible career pathways within the ambulance service and across the NHS, role development and better career prospects need to be developed in order to meet service development needs in the medium to long-term and to ensure that the experience and skills of these staff are retained. SHAs and ambulance services should examine how clinical resource can be fully utilised in other ways – for example in call handling, working in GP practices or in walk-in centres, or taking diagnostic services to the patient.
- C10.** In rural areas in particular, there is often lower utilisation of front-line clinicians due to the need to have sufficient numbers of staff on duty at any one time across the area to enable life-threatening emergencies to receive an 8 minute response. Many services are finding that the spare capacity of these staff can be effectively used working in the primary care team to support case management of patients with long-term conditions or to help manage urgent in-hours home visits and GP appointments. Training of 24 hour lay responder schemes to augment ambulance

response to life threatening emergencies in rural areas can also be undertaken by rural-based ambulance clinicians. SHAs should also work with PCTs to ensure that ambulance trust resource is included in capacity planning for primary care and for urgent care. Networks should work with SHAs to ensure co-ordinated and cross-system workforce planning for urgent and emergency care.

Case study: improving patient care through better use of staff expertise

East Anglian Ambulance Service NHS Trust first deployed community paramedics in 2000 as a cost effective method of improving rural town response times, demonstrating a visible NHS ambulance presence to rural communities and bridging a link into primary care. Over 40 community paramedics have been integrated into GP surgeries and community hospitals together with over 700 lay responders who cover these "patches" providing defibrillator and basic life support care when the paramedic is absent. They also support GPs in undertaking home visits both in and out of hours, undertake diagnostic testing within the surgery, and many are involved with running clinics for conditions such as asthma or diabetes.

These community paramedic schemes have now also been implemented in busy and deprived urban areas, still working out of local GP surgeries and linking with nursing, social and mental health teams to offer 999 callers alternative pathways. Emergency Care Practitioner development has continued apace over the last eighteen months with over 40 ECPs trained. Many are working on out of hours care and many of the community paramedics have now undertaken ECP training to provide wider treatment and advice options to rural and urban 999 users as well as supporting GP colleagues in and out of hours. Currently over 40% of 999 cases attended by community paramedics receive care locally rather than being taken to A&E and this is expected to increase as ECPs become more available.

Category A 999 response times in the rural towns have improved dramatically from baselines as low as 16% within eight minutes to averages of around 80% following community paramedic deployment.

The impact of one Norfolk-based scheme is seeing quite dramatic changes in the outcome of emergency activity. Audit of similar GP practice areas within North Norfolk PCT has shown that for the GP practice with community paramedics (compared with practices without paramedics):


- *A&E attendances are 32% lower (9.3 per 1,000 on the practice list per month compared to 13.6 per 1,000 per month in similar sized practices within the PCT);*
- *there has been a 26.6% reduction in emergency admissions (41.4 per 1,000 compared to 58.7 and 54.1 per 1,000 in similar sized practices within the PCT).*

- C11.** These recommendations will benefit from a single data repository and dataset through *Connecting for Health*. This will enable consistent data collection, analysis and benchmarking and reduce the administrative costs of data collection. It will also encourage a holistic view of service provision to be taken.

D: Support performance improvement

- D1.** The review was specifically asked to address concerns about inconsistencies in how ambulance services apply performance requirements. The proposed way forward is set out below, including proposals for supporting services in raising levels of performance against these standards. In the medium term, the more important priority, however, is to support local health economies in developing a wider range of indicators for the quality and outcomes of care (as set out in recommendation B).
- D2.** These changes are designed over time to create increased focus (for the purposes of national performance monitoring) on those patients with the most pressing emergency care needs, fewer national performance requirements, and reduced data burdens on the NHS.
- D3.** The Department should change the underpinning definitions for existing performance requirements as follows, so that they can be more consistently applied and better understood:
- (a) for the purpose of measuring 999 **Category A and Category B response times**, the clock should start when the **call is connected** to the ambulance control room. This will more closely match the patient's experience and can be consistently understood and applied by services. This change should be introduced from **April 2007** to allow sufficient time for the necessary technical and operational changes and to avoid a mid-year change to national

performance definitions. Good practice suggests that the 999 call should be answered within five seconds at least 95% of the time.

- (b) to simplify current requirements and help enhance focus on Category A responses, the performance requirements for **Category B response times** – and **Category A transport times** – should be based on a single measure of **19 minutes for all services** – with effect from **April 2006**. The current distinction between rural and urban trusts is outdated and inaccurate, with urban areas such as Coventry and Leicester classified as rural and parts of the Peak District classified as urban. Classifying ambulance services according to population density is operationally difficult and reduces clarity about expected response times.
- 
- (c) over time, national performance requirements for **Category B response times** should be replaced by **clinical and outcome indicators** against which performance should be managed locally. Category B includes patients with a wide range of conditions, for whom a variety of responses are appropriate. Measures of performance should be based to a greater extent on the quality and the outcome of the care they receive. This change should happen once the evidence base and professional consensus are sufficiently developed to make this possible (see **section B**), but we recommend setting **April 2009** as an indicative timescale.
- (d) to reduce the burden of data collection on ambulance services further, the requirement to report to the Department the number of Category B calls responded to within 8 minutes should be dropped.
- (e) as part of this review, since 1 October 2004, ambulance services, together with PCTs and SHAs, have been free to set local standards for managing non-urgent (**Category C**) calls. Category C includes patients for whom a variety of responses and timescales are appropriate. Local networks and commissioners can now agree standards that are consistent with wider approaches to urgent care provision for this group of patients.
- (f) the performance requirements for responding to **patients whose GP calls an ambulance on their behalf** (known as ‘GP urgents’) should be the same as for other 999 calls – with effect from **April 2007**. From **April 2006**, as an interim

measure, the clock should stop for this group of patients when an ambulance clinician arrives at the scene. This should replace the current measure, which is based on taking such patients to hospital within 15 minutes of the time requested.

This is summarised in Annex C.

- D4.** As a result of this review, since **1 April 2005, the Department has put in place measures to ensure that all ambulance services should prioritise calls in the same way.** This should reduce variation by geography in the response received by patients. For this reason the Department has established an independent expert group to consider the clinical evidence for prioritisation of key patient presentations. Evidence will be collected and reviewed annually by this group to ensure that clinical risk is minimised and that prioritisation reflects patient need as closely as is possible. All ambulance services should use a single 999 call prioritisation system and use the most up to date version available. Consideration should be given locally to prioritisation systems being standard across urgent care providing this can be done safely.
- D5.** There should be further work to ensure that the financial incentives introduced by Payment by Results help as far as possible to support the improvements recommended by this review and to appropriately incentivise the development of integrated urgent care provision. An early task will be to develop reference costs for patient transport services and to refine the classification of reference costs for emergency and urgent care services. It is essential to understand the costs of providing ambulance services to the same standards in these different environments. It costs more to provide the same standard of service in very sparsely populated areas than it does in more densely populated ones. However, the slow traffic speeds experienced in some towns and cities also have the effect of increasing resource requirements. The balance between these and other influences on cost is not always fully understood, and need to be if payment by results is to be implemented effectively for ambulance services.
- D6.** To support ambulance services in making further improvements in performance against national requirements (taking into account the recommendations of this review), the Department should:
- develop a national implementation support framework including programmes of tailored support for those services with particular implementation challenges;
 - resource and support the development of regional forums for operations directors and for service modernisation/strategy leads to share good practice and

innovation, provide similar support for clinical directors to come together at a national level;

- work with SHAs and PCTs to improve understanding of challenges for ambulance services and how they can be supported in meeting them.

E: Develop the workforce

- E1.** Workforce developments need to be designed around the principle of an emergency and urgent care system that:
- provides consistently high quality patient centred care;
 - provides timely and accessible care;
 - is seamless and integrated within the local health and social care economy;
 - assesses, treats or refers patients;
 - contributes responsively to the long term conditions agenda.
- E2.** Longer term workforce planning is therefore key to ensuring that staff levels and skill mix reflects the needs of patients in the future. Ambulance services need to develop plans for future service provision and skill mix/numbers in conjunction with other urgent care service providers. Skills for Health and the Workforce Review Team should support SHAs in ensuring the NHS has the right staff with the right skills to meet patient needs, as well as helping to identify and remove barriers to robust workforce planning in urgent care.
- E3.** The ambulance service has made a number of recent changes in how it uses its workforce to deliver and improve patient care. An increasing number of community paramedics and emergency care practitioners (ECPs) are treating patients at home, helping provide primary care out-of-hours services and helping respond more efficiently and effectively to non-urgent 999 calls. The recent step to give local health economies responsibility for managing performance on non-urgent (Category C) 999 calls – one of the early recommendations of this review – together with the increasing provision by ambulance services of out of hours primary care services are already providing further opportunities to develop the ambulance workforce in this way.
- E4.** There is, however, significant further scope to improve the education and training of ambulance staff and to create a workforce that can provide a greater range of mobile urgent care. Traditional paramedic and technician training is still heavily focused on

resuscitation and trauma management. Insufficient development has been provided in patient assessment, basic diagnostic ability and underlying pathophysiology. Presentation of common urgent illness conditions and a good understanding related pharmacology is also needed in order to improve care for the many urgent, non life-threatening patients who call 999.¹³ Ambulance clinician training needs to be designed around the case mix they deal with. Therefore, staff training and education needs to focus on physical assessment, clinical decision-making, long-term conditions, minor illness and injury.

- E5.** Progress has been made in the last couple of years with an educational framework developed for paramedics, the completion of the Quality Assurance Agency's Benchmarking Statement for Paramedic Science and the publication of curriculum guidance for all higher education paramedic programmes due in September 2005.
- E6.** The Health Professions Council has established standards of proficiency and standards of education and training for paramedics and are commencing an inspection programme of education and training programmes in 2005. Ambulance technician awards are being updated to lead to a part-time certificate of higher education equivalent during 2005 and ambulance care assistant awards have been updated and incorporated into the BTEc framework.
- E7.** To ensure cohesion between national strategic policy and the development of education and training for ambulance clinicians, Skills for Health are working with other key stakeholders to:



- further develop the national workforce competence framework and National Occupational Standards. By the end of 2006 this will be fully populated with competence for all aspects of emergency, urgent and scheduled care. This will include presentation, assessment, diagnosis, treatment, referral and discharge and will include those required for dealing with calls requiring emergency, urgent and scheduled care provision within health care settings;
- develop competency frameworks that identify the competences needed at different levels of career progression.

13 Lendrum K et al, (2000) *Does the training of ambulance personnel match the workload seen?*, Pre-Hospital Immediate Care, 4:7-10

In turn, these nationally accredited standards will be mapped to the NHS Knowledge and Skills Framework which links the development review cycle, including the requirement for annual appraisal and PDP development, to career progression within the pay system.

- E8.** Ambulance clinicians should be equipped with a greater range of competencies that enable them to assess, treat, refer, or discharge an increasing number of patients and meet quality requirements for urgent care. The Department – working with key stakeholders – should develop guidelines on patient pathways to promote consistency between urgent care providers. The training of ambulance clinicians and call handlers should have greater commonality with that of other health professionals and their career pathways should be integrated with the wider NHS, so that people undertaking similar tasks and gaining similar competencies have the opportunity to train and develop together. Transferability of recognised qualifications is key. To aid integration, the review's conclusion is that there should be a move to higher education delivered models of training and education for ambulance clinicians. Ambulance clinicians should also work in a variety of settings as part of their career in order to make best use of – and expand – their skills and knowledge.

Case study: moving from training to education

In September 2004 Hereford and Worcester Ambulance Service NHS Trust began discussions with University College Worcester with a view to relocating its learning and education department on the University site. This came to fruition in April 2005.

The considerable benefits of this collaboration include:

- *Development of a degree course in paramedic science. Promoting trust staff to continue their professional advancement towards degree level study in line with other health care professionals;*
- *Supporting the changing face of ambulance services in providing emergency and unscheduled care;*
- *Cross-organisational working is developing, with close links being built with nursing, midwifery and emergency care practitioner programmes. Making way for the potential sharing of tutors, classroom space and equipment;*
- *Clinical supervisors will undertake a degree level programme to enable them to lecture in higher education.*

- E9.** There should be multiple entry points into the ambulance service workforce to ensure that those individuals who have the ability to become ambulance clinicians but who choose not to go into higher education have the opportunity to enter the service and learn on the job, and that prior experience, for example working as a paramedic in the armed forces, is recognised and transferable. The ambulance service is fortunate not to have recruitment problems at present. It therefore needs to manage the transition of ambulance clinician education and training to higher education carefully.

Case study: continuing professional development

At Coventry and Warwickshire Ambulance Service NHS Trust, all emergency staff receive a minimum of four days annual continuation training, linked as far as possible to an individual skills audit.

The trust also provides an increasing amount of higher education. ECPs, who can come from a nursing or paramedic background, can be trained to three levels – degree, certificate or diploma. ECPs rotate in primary care or secondary care on a 50% basis with the ambulance trust. This strengthens their learning and development opportunities and improves clinical governance. ECP courses are fully subscribed and the trust also mentors joint paramedic/nurse degree pre-registration students.

In May 2005 existing vocational technicians started attending Coventry University to gain a Paramedic Diploma over six months. In September a new entry paramedic foundation degree will commence. To ensure staff are correctly mentored during training, the trust is also introducing Emergency Care Assistants who will be responsible for driving and infection control of the vehicle and will provide first responder level first aid. The paramedic students will then be mentored by paramedics and ECPs accredited by the University.

- E10.** Ambulance services and the Health Professions Council, working with key stakeholders, should use the competency framework to develop nationally recognised pre- and post-registration training programmes that are flexibly delivered and which ensure a robust, accredited national curriculum for ambulance clinicians. In the case of non-registered ambulance clinical staff, the education programme should be approved by the British Paramedic Association and Ambulance Service Association. The reference group anticipates that initial registration for ambulance clinicians should be at diploma or foundation degree level. Academic level of award at initial registration should be based on the competencies needed for safe and effective

practice as a paramedic. It is recognised that entry levels, training programmes and qualifications will need to be finalised once skills and competencies required for different roles have been determined, and that the relative merits of each type of qualification will need to be considered, including funding implications.

- E11.** Changes to career pathways and training requirements should:
- be sensitive to the range of career aspirations that staff will have when they join the ambulance service, bearing in mind that ambulance trusts are generally fortunate not to have recruitment problems;
 - make careers in the ambulance professions more attractive to minority ethnic groups to ensure that the workforce reflects the communities it serves;
 - improve career opportunities of older clinical staff through flexible employment practices that complement operational delivery requirements.
- E12.** In doing this, there should be improved opportunities for career progression, with scope for ambulance professionals to become clinical leaders. The NHS Knowledge and Skills Framework provides a platform for this, helping staff to identify and follow clearer career pathways. While ambulance services will always need clinical direction from a variety of specialties, they should develop the potential of their own staff to influence clinical developments and improve and assure quality of care.
- E13.** Although ambulance services currently fund training and education of ambulance clinicians themselves, they also have access to funding for post-registration training and education via MPET. Funding arrangements should be consistent with those for other non-medical clinical professions in order to support the effective workforce transition described above, particularly given the greater cost of higher education programmes and with their introduction, the cost of back-filling posts that were previously occupied by trainees.
- E14.** Once the model for nationally recognised pre and post registration training has been agreed, the Department, in conjunction with SHAs, should review funding arrangements where necessary to facilitate consistent access to funding, for example access to MPET and to the NHS bursary scheme. Ambulance services, PCTs, acute trusts, foundation trusts and SHAs will then need to work together to review funding arrangements and priorities for the training of the overall urgent care workforce.
- E15.** To improve workforce diversity, we recommend that the Ambulance Service Association, the British Paramedic Association, NHS Employers, NHS Careers and NHS Jobs work together to market ambulance clinician roles as a profession with excellent opportunities for development and progression across the NHS. Ambulance services should also take increased steps to support the recruitment

of black and minority ethnic staff. When recruiting and designing new roles, ambulance services should also focus on the competencies, underpinning education, attitudes and behaviours required to deal with patient need and consider the increased use of and diversification into intermediate grades (between PTS and emergency ambulance grades) as well as more advanced and specialist clinical grades.

Case study: improving working lives

As part of its commitment to equalities and diversity, Hereford and Worcester Ambulance Service NHS Trust took the opportunity when reviewing its annual leave policy, to enable staff that hold a faith to different religious beliefs other than Christianity to designate their bank holidays in line with their own festivals.

All new staff will be given the opportunity to designate their bank holidays, and existing staff will be given the opportunity to do this with the launch of the new policy. The normal payment and time off arrangements for bank holidays will be applied.

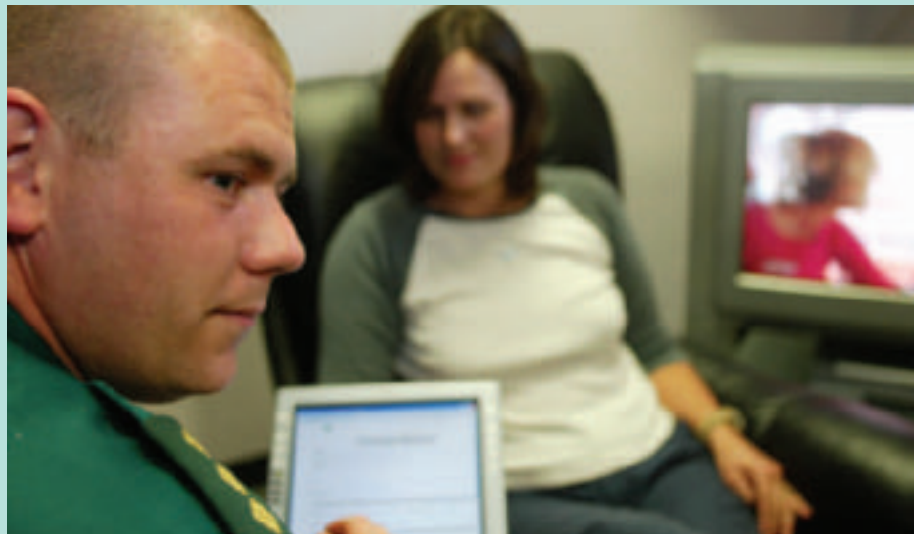
Not only does this recognise and value differences, it also provides greater flexibility when planning rotas, and has been positively received by all staff members.

It is too early to assess the effects on recruitment, but evaluation processes are in place.

- E16.** The recruitment and development of ECPs should continue at pace, encouraging recruitment from a variety of professional backgrounds, including, within the NHS. ECPs should be regulated as a profession in their own right with the Health Professions Council and prescribing responsibilities should be explored. This should also include the development of a national curriculum for ECP training, with education programmes nationally accredited by the HPC and delivered by HPC-approved higher education institutions, alongside HPC arrangements for CPD and clinical mentoring.
- E17.** There are currently about 630 ECPs practising in England and more are being trained. This rapid expansion of a new professional role – along with new ways of working for paramedics – significantly increases the need for clinical placements in A&E and primary care to ensure that clinical skills and experiences are maintained and practitioners benefit from a full range of practice opportunities. Ambulance services and SHAs will need to work together to ensure that the placements are available. There is considerable evidence to show that good quality clinical placements lead to successful recruitment and retention. The nature of training should be determined by service requirements.

Case study: new ways of working improve patient care

Essex Ambulance Service NHS Trust was one of the first 12 national pilot sites to develop the Emergency Care Practitioner (ECP) role. The aim of the role is to provide experienced pre-hospital care professionals with additional skills, knowledge and abilities required to treat patients more appropriately in the out-of-hospital setting. In particular, greater patient assessment and examination skills; treatment of minor injuries and minor illness; management of patients with long-term conditions and the utilisation of Patient Group Directives (PGDs) to administer and supply a further 30 medications over and above the emergency preparations that paramedics currently administer.



In addition to being able to treat and discharge patients on scene; ECPs are able to refer patients to all primary care teams, including general practitioners, and also all medical specialities in acute trusts such as medical and surgical teams on call.

Essex Ambulance Service currently has 46 operational ECPs and has accelerated the delivery of the course to increase that number to 120 by the end of 2006. ECPs across Essex have take only 14% of their patients to A&E, with 14% referred to another health or social care service, and 64% treated at the scene. Prior to the introduction of ECPs, Essex Ambulance Service on average conveyed 70% of all patients to A&E. There are high patient satisfaction rates with the service provided by ECPs.

- E18.** The Department should work with SHAs and ambulance services to develop a five year workforce development plan to implement these recommendations.

7 Conclusions

- 7.1 Ambulance services have made huge improvements over the last ten years and they are now well positioned to make a greater contribution than ever before to improving patient care.
- 7.2 A key priority will be the development of career pathways for paramedics, including opportunities to practise clinically at advanced levels. These advanced roles have already delivered better patient care and patient experience, and make more effective use of NHS resources through the whole patient pathway.
- 7.3 The Department supports and accepts the conclusions of the review. Implementation of the recommendations should begin immediately, subject to the points set out below.
- 7.4 The Department accepts in full the recommendations for new definitions of national performance requirements set out in section D and ambulance services should begin immediate preparations to implement these requirements in line with the timescales set out in section D.
- 7.5 The Department's view is that there should be a reduction of at least 50% in the number of ambulance services to ensure that they have the capacity, leadership and can maximise the resources available for the delivery of effective patient care. The Department will consult with the NHS and the public over the next few months to determine what the future number and configuration of ambulance services should be and will agree a plan for rapid implementation of the new trust boundaries.
- 7.6 The report raises wider issues for access to and provision of urgent care. The Department will be consulting with the NHS and the public on these issues as part of the work on the forthcoming white paper on out of hospital services and the current arms length body review of NHS Direct.
- 7.7 The Department of Health will also:
 - consult the independent ambulance sector, the NHS and the Healthcare Commission to identify the most appropriate system for accrediting independent ambulance providers;
 - work with SHAs, NHS Employers, Skills for Health, the Workforce Review Team and ambulance services to develop a national framework for implementing the conclusions of the report, including a timetable for the workforce elements, for publication by the end of 2005. The Department will support ambulance services, PCTs and SHAs in developing local implementation plans.

Glossary

Acute coronary syndrome

This is an umbrella term used to cover any group of clinical symptoms compatible with acute myocardial ischemia. Acute myocardial ischemia is chest pain due to insufficient blood supply to the heart muscle that results from coronary artery disease (also called coronary heart disease). These processes usually result from a rupture of a fatty plaque in the arterial wall that may cause complete or partial occlusion of the vessel.

Agenda for Change

Is a new pay and reward system for non-medical NHS staff.

Ambulance clinician

A member of qualified ambulance trust staff providing clinical assessment and care to patients.

Category A

Presenting conditions which may be immediately life threatening.

Category B

Presenting conditions which though serious are not immediately life threatening.

Category C

Presenting conditions which are not immediately life threatening.

Clinical audit

A quality improvement process that seeks to improve patient care and outcomes through systematic review of care against explicit criteria and the implementation of change. Aspects of the structure, processes and outcomes of care are selected and systematically evaluated against specific criteria. Where indicated, changes are implemented at an individual, team or service level and further monitoring is used to confirm improvement in healthcare delivery.

Community matron

A clinical role with responsibility for planning, managing and coordinating the care of people with highly complex needs, living in their own homes and communities.

Community matrons use case management techniques to reduce unplanned hospital admissions caused by poor disease control and lack of effective prevention.

Connecting for Health

Responsible for procurement and delivery of the multi-million pound investment in new information and technology systems to improve NHS services (formerly called the National Programme for IT).

Electronic patient record

The NHS Care Records Service (NHS CRS) will be an electronic store of over 50 million health and care records which can be accessed by health professionals where and when they are needed. It will also give patients secure internet access to their own health record.

The 'Care Record' consists of two elements; (1) The 'Core Care Record' will include demographic data as well as clinical information such as allergies and adverse reactions to drugs. The 'Full Care Record' will hold detailed personal health information including medical history, operation details, x-rays and other test results. The Full Care record will be available in 2010.

Emergency Care

NHS or social care delivered for a need that is, or the patient perceives to be, an emergency.

Emergency Care Practitioner

Advanced practitioner capable of assessing, treating and discharging/referring patients at the scene. Usually a paramedic or nurse who has undertaken specific training and education in order to be able to respond to the first contact needs of patients accessing urgent care.

Independent ambulance providers

Those providers of ambulance transport or services other than NHS trusts who operate in the commercial or voluntary/charitable sectors.

Life-threatening condition

An event, injury or illness that is time critical. Without appropriate intervention or assistance, death is likely.

Long-term condition

Long-term conditions are those that can only be controlled and not, at present, cured. They included diabetes, asthma, heart failure, chronic obstructive pulmonary disease, dementia and a range of disabling neurological conditions. They usually require careful monitoring and management, including through self-care.

Myocardial infarction

The different types are:

- Sudden cardiac death – the disruption to blood flow and damage to the heart muscle causes electrical instability leading to ventricular fibrillation or asystole.
- ST elevation myocardial infarction (heart attack) – this is usually the result of complete occlusion of a coronary artery by blood clot and requires urgent treatment by thrombolysis or angioplasty.

- Non-ST elevation myocardial infarction – this usually results from partial occlusion of the artery and onward propagation of material down the artery to cause minor damage or so-called mini heart attack. This requires treatment with anti-platelet medication and may require angioplasty.

NHS Direct

A 24/7 service that provides healthcare information and advice to the public through a telephone helpline (08454647) and also online.

NHS Knowledge and Skills Framework

The 'Knowledge and Skills Framework' is a tool which provides a means of recognising the skills and knowledge that a person needs to apply to be effective in a particular NHS post. The framework is a generic tool applicable across the NHS ensuring better links between education and development and career and pay progression.

Patient Group Directions (PGDs)

Are written instructions for the sale, supply and/or administration of named medicines in an identified clinical situation. It applies to groups of patients who may not be individually identified before presenting for treatment.

Primary care

First-contact health services directly accessible to the public.

Primary Care Trust

A local health organisation responsible for managing local health services. PCTs work with Local Authorities and other agencies that provide health and social care locally to make sure the community's needs are being met.

Public Service Agreement

The PSA for the Department of Health sets out the priorities for the Department's spending programme, and for each priority, the target(s) it is expected to achieve.

Secondary uses service

Is the means by which information and analysis will be available for secondary purposes like performance monitoring, service planning, commissioning and clinical audit. It will also provide support to Payment by Results.

Strategic Health Authority

Responsible for:

- developing plans for improving health services in its local area;
- making sure local health services are of a high quality and are performing well;
- increasing the capacity of local health services so they can provide more services; and

- making sure national priorities are integrated into local health service plans.

Thrombolysis

Is the dissolution of a blood clot.

Thrombolytic drug

Thrombolytic drugs are used in medicine to dissolve blood clots in a procedure termed thrombolysis. They limit the damage caused by the blockage of the blood vessel.

Trauma

Any injury, whether physically or emotionally inflicted. “Trauma” has both a medical and a psychiatric definition. Medically, “trauma” refers to a serious or critical bodily injury, wound, or shock.

Urgent Care

A range of health and social care services accessed and provided at the time of need.

Acronyms

A&E	Accident and Emergency Departments (including specialist A&Es)
AHP	Allied Health Professional
CHD	Coronary Heart Disease
CPD	Continuing Professional Development
COPD	Chronic Obstructive Pulmonary Disease
CPI	Clinical Performance Indicator
ECP	Emergency Care Practitioner
HPC	Health Professions Council
ITU	Intensive Treatment Unit
JRCALC	Joint Royal Colleges Ambulance Liaison Committee
MIU	Minor injury unit
MPET	Multi-professional education and training budget
NICE	National Institute for Clinical Excellence
PBR	Payment by Results
PCT	Primary Care Trust
PTS	Patient Transport Service
SHA	Strategic Health Authority
WIC	Walk-in centre

Annex A: Terms of reference and issues considered

The group's terms of reference included resolving outstanding operational issues and reviewing the role of ambulance services given changes in unscheduled care. It has therefore sought to:

- Review documents around response time target definitions and call categorisation and make recommendations on these issues to put to ministers.
- Come to a view on the role of ambulance services in delivering unscheduled care, and feed into the wider thinking around the future delivery of unscheduled care as a whole. Consider what the Department can do to enable ambulance services to fulfil that role.
- In the light of this work, consider the future training and education requirements of ambulance service staff and its fit with wider education issues.
- Assist in the formulation of healthcare standards and consider the use of clinical outcome measures and indicators.
- Review documents and proposals around other issues that come up during the course of the review and advise the Department of Health and the National Ambulance Adviser accordingly.
- Make recommendations for future areas for ambulance policy development.

This report takes into account previous work undertaken by a range of groups looking at the provision of unscheduled care.

Annex B: Summary of views received

The review's focus and recommendations were influenced by feedback from the Commission for Health Improvement report on the delivery of ambulance services in England ('What CHI has found in ambulance trusts: sector report'), the Ambulance Service Association's report ('The Future of Ambulance Services in the UK' 1999), staff and patient surveys as well as the four stakeholder consultation events that took place during the review period.

Key issues raised include:

- Need to improve quality of care for example, pain management and communication with patients.
- Issues around management capacity and capability.
- Performance standards in need of revision.
- Focus required on clinical leadership and strategic management capacity.
- Under developed and fragmented clinical governance arrangements.
- Need to focus on health care systems as a whole.
- Higher profile needed for potential of ambulance service staff skill base and opportunity to contribute to improvements in long term conditions management.
- Barriers around professions need to be eradicated to enable movement.
- Need to raise credibility of skills and care delivered by the ambulance service and not focus on 'transporting' element.
- Ease of access to urgent care.
- Need to focus on the right and appropriate treatment, patient pathways and the contribution of the ambulance service to the pathway.
- Cultural issues need to be looked at first – integrating ambulances into the wider health service, joint education base; opportunity for local networks.
- Whole system indicators managed by emergency care networks.
- Commissioning and contracting strategies that reflect all services.
- Developing wider range of types of response and clinical roles for ambulance staff, to provide a variety of appropriate care pathways for patients.
- Development of managed partnerships and joint service working with NHS, social service agencies and other emergency services.

Annex C: Summary of changes to performance requirements

Current Position (Pre-review)	End Position (Post review)
<p>Four national performance requirements, set in 1996:</p> <ul style="list-style-type: none"> • <i>Presenting conditions which may be immediately life threatening (classified as Category A) should be responded to within 8 minutes irrespective of location in 75% of cases.</i> • <i>A fully equipped ambulance should attend incidents classified as Category A within 14/19 minutes of the initial call, 95% of the time, unless the control room decides that an ambulance is not required.</i> • <i>All other patients (Category B/C) should be responded to within 14 minutes (Urban) or 19 minutes (Rural) in 95% of cases.</i> • <i>Ambulance services are required to take patients to hospital where the need is identified by a doctor as urgent and these patients should arrive at hospital within 15 minutes of the arrival time specified by the doctor in 95% of cases.</i> 	<p>Two national response time requirements which apply only to those patients for whom every minute of waiting is critical:</p> <ul style="list-style-type: none"> • <i>Presenting conditions which may be immediately life threatening (classified as Category A) should be responded to within 8 minutes irrespective of location in 75% of cases.</i> • <i>A fully equipped ambulance should attend incidents classified as Category A within 19 minutes of the request for transport, 95% of the time, unless the control room decides that an ambulance is not required.</i> <p>For all other patients, ambulance trusts are assessed on the overall quality of care provided to patients (one component being timeliness of response).</p>
<p>Regional variation in how calls are categorised and performance reported.</p>	<ul style="list-style-type: none"> • Standard, improved, categorisation of calls. • Consistent, credible performance reporting. • Patients receive the same level of service wherever they live. • Ambulance trusts are “good” trusts if they provide a quality service to patients.

Annex D: List of recommendations

Ambulance services should improve the speed and quality of their call handling, provide significantly more clinical advice to callers, and work in a more integrated way with partner organisations to ensure consistent telephone services for patients who need urgent care

1. Ambulance services need to improve the speed with which 999 calls are answered and the quality of call handling.
2. Ambulance services need to deliver significantly more clinical telephone advice, with higher levels of clinical expertise.
3. Ambulance services need to work more closely with urgent care providers to ensure consistent standards of call taking and response.
4. There should be a standard competency framework and core training syllabus for call-handling staff.
5. Work needs to continue at pace to build an evidence base so that call categorisation can reflect as safely as possible patients' needs.
6. There should be significantly improved clinical supervision, support, audit and quality assurance in ambulance control rooms to provide clinical direction and advice.
7. There should be further research to compare approaches to call handling and also to establish the level of medical support necessary to maximise the effectiveness of the advice.
8. Contestability and integration of urgent care provision should be improved by making the provision of clinical assessment by NHS Direct an optional service for PCTs to commission.

Ambulance services should provide and co-ordinate an increasing range of mobile healthcare for patients who need urgent care

9. There should be improved focus on the large numbers of patients calling 999 who require urgent primary or community care services.
10. Ambulance clinicians should work locally to undertake appropriate home visits on behalf of GPs, both in and out of hours, and help with GP same day appointments.

11. Ambulance clinicians should also rotate through urgent care centres to help develop practice and manage demand cost-effectively.
12. To facilitate coordination of urgent care provision, response hubs – which may be virtual or physical – must be able to deliver assessment, information, resource dispatch and referrals (including bookable appointments) in real time.
13. Information on referral options, including primary, secondary and community services needs to be available to staff delivering clinical telephone advice in order to advise patients on care appropriate to their need.
14. A patient record summary should be available to ambulance service staff to assist them with providing targeted, appropriate, quality clinical care. As a minimum, the summary should contain information on:
 - the patient’s GP, district nurse or other regular provider of care;
 - whether the patient is on the child protection or vulnerable adults register;
 - key medical conditions and critical treatment information (e.g. being treated at hospital while awaiting heart surgery);
 - any medication and allergies;
 - details of how to access the patient’s care plan (if there is one);
 - the last five contacts with NHS services and the treatment pathway recommended, to aid decisions about that patient’s care;
 - whether the patient is violent or abusive to NHS staff;
 - whether the patient is a regular user of 999 or other urgent care services.

Ambulance services should provide an increasing range of other services, e.g. in primary care, diagnostics and health promotion

15. Ambulance clinicians should increasingly undertake routine assessments of patients in their homes in partnership with the primary care team.
16. Ambulance clinicians can play an increasing role in undertaking diagnostic procedures in patients’ homes, particularly for patients whose condition or transport situation makes it more difficult to access community diagnostic centres or hospitals.

17. PTS operating hours should be better structured around patient need e.g. being available to take patients home after day care or surgery so that avoidable overnight or weekend admissions are prevented. The implications for planned and emergency transport provision should be considered as part of local service planning in order to optimise impact.
18. Ambulance clinicians can play a role delivering health promotion and education for self-care. They can also train community responders, teach CPR to local communities and also support health screening programmes.

Ambulance services should continue to improve the speed and quality of service provided to patients with emergency care needs

19. Ambulance services need to improve their treatment of major trauma, through partnership working with critical care networks and transport to the most appropriate provider.
20. Pain should be better assessed and pain relief more widely used, particularly with children.
21. Ambulance services need to further improve their provision of cardiac care. There should be continued improvements in cardiac arrest survival and the treatment of acute coronary syndrome including direct admission to cardiac catheter laboratories and continued roll-out of pre-hospital thrombolysis to treat cases of ST segment elevation myocardial infarction (where eligible) according to locally agreed care pathways.
22. There should be improved specialist transfer arrangements for emergency inter-hospital transfers including local agreements between ambulance and acute trusts on the equipment to be used.
23. Rapid admission to stroke units should be agreed locally as protocols for stroke care evolve.
24. There should be continuing improvement in governance and support for community responder schemes and the use of doctors to respond to Category A calls.
25. There should be greater emphasis on developing local agreements for rapid referral of patients where there is evidence of improved outcomes the earlier the treatment takes place, e.g. for stroke or heart attack.

Improve leadership, both clinical and managerial, so that organisation structure, culture and style matches new models of care

26. Commissioning, purchasing and provision of integrated emergency and urgent care needs to be progressed in partnership through local emergency/urgent care networks.
27. There should be a lead PCT for each ambulance service who is responsible for commissioning ambulance services for all the PCTs in that area.
28. The Department should fund a programme of management and leadership development for ambulance staff, having first commissioned research to understand development need.
29. The Department should also resource and support the development of regional forums for operational directors and for service modernisation/strategy leads to share good practice and innovation.
30. The Department should provide similar support for clinical directors to come together at a national level.
31. Ambulance managers need to continue to focus on their own development as professional healthcare managers, understand the impact that their services can have on patient outcomes and work with their colleagues to enhance quality of care. Leadership needs to focus more fully on cross-organisational team work, building relationships and coaching and supporting staff to improve patient care.
32. Ambulance services need to play a full and active part in emergency care networks, including chairing networks where appropriate. Networks should identify ways of freeing up more time and resource to look at strategic issues such as planning, commissioning, funding and whole-system performance indicators. Constituent organisations should ensure that networks have dedicated support, to facilitate local action.

Improve the consistency and quality of care provision

33. There should be a single data repository and data set for ambulance services through Connecting for Health.
34. Measures of patient outcome and experience should be used to promote evidence based practice and assess how far ambulance services and local health economies are delivering high quality care.

- 35. Development of clinical quality measures needs to be embedded into the full spectrum of ambulance service provision and directly linked to NSFs, NICE and JRCALC guidance. It is equally important that clinical quality development is embedded in the work of networks.
- 36. The recommendations will benefit from a single data repository and dataset through Connecting for Health.
- 37. The Department of Health should commission a programme of work to build the evidence base for pre-hospital and out of hospital care.
- 38. The Department of Health should develop whole-system indicators to incentivise commissioners and providers to work together to improve patient flow and quality of care. Development of clinical performance indicators should be undertaken in phases.
- 39. A system for accrediting independent ambulance providers should be introduced.

Improve efficiency and effectiveness

- 40. There should be a reduction in the number of services broadly in line with SHA boundaries. Precise decisions on the configuration and number of services should be made after consultation with NHS and the public to ensure that configuration reflects local operational requirements.
- 41. The Department of Health should explore the scope for further efficiencies through national procurement and outsourcing of appropriate support services by reviewing common capital procurements particularly for fleet, but also potentially for other aspects.
- 42. The Department of Health should ensure that support is made available (or commissioned) to support trusts in achieving optimum call activation, mobilisation, resource production and distribution, recognising this will vary with rural and urban models.
- 43. The Department should support services to understand and analyse their demand. Commissioners need to recognise the impact of increases in activity as well as striving for increased efficiency.
- 44. SHAs and ambulance services should examine how clinical resource can be fully utilised in other ways – for example in call handling, working in GP practices or in Walk-in Centres, or taking diagnostic services to the patient.

45. SHAs should work with PCTs to ensure that ambulance service resources are included in capacity planning for primary care and for urgent care.
46. Networks should work with SHAs to ensure co-ordinated and cross system workforce planning for urgent and emergency care.

Support performance improvement

47. For measuring 999 **Category A and Category B response times**, the clock should start when the **call is connected** to the ambulance control room. This will more closely match the patient's experience and can be consistently understood and applied by services. This change should be introduced from **April 2007** to allow sufficient time for the necessary technical and operational changes and to avoid a mid-year change to national performance definitions. Good practice suggests that the phone should be answered within 5 seconds at least 95% of the time.
48. The performance requirements for **Category B response times** – and **Category A transport times** – should be based on a single measure of **19 minutes for all services** – with effect from **April 2006**.
49. By April 2009, national performance requirements for **Category B response times** should be replaced by **clinical and outcome indicators** against which performance should be managed locally. This is an indicative timescale.
50. There should no longer be a requirement to report the number of Category B calls within 8 minutes.
51. Local networks should be able to put in place standards that are consistent with wider approaches to urgent care provision for non-urgent (Category C) patients.
52. The performance requirements for responding to **patients whose GP calls 999 on their behalf** (known as 'GP urgents') should be the same as for other 999 calls – with effect from **April 2007**. From **April 2006**, as an interim measure, the clock should stop for this group of patients when an ambulance clinician arrives at the scene.
53. All ambulance services should prioritise calls in the same way. Prioritisation should be reviewed annually.
54. All ambulance services should use a single 999 call prioritisation system and use the most up to date version available. Consideration should be given to prioritisation systems being standard across urgent care providing this can be done safely.

- 55. There should be further work to ensure that the financial incentives introduced by Payment by Results help as far as possible to support the improvements recommended by this review and to appropriately incentivise the development of integrated urgent care provision. An early task will be to develop reference costs for patient transport services and to refine the classification of reference costs for emergency and urgent care services.
- 56. The Department should develop a national implementation support framework, with tailored support for those services with particular implementation challenges.

Develop the workforce

- 57. Ambulance clinical training needs to be designed around the case mix they deal with. Course content should therefore be reviewed.
- 58. The Department should support SHAs in ensuring the NHS has the right staff with the right skills to meet patient needs, as well as helping to identify and remove barriers to robust workforce planning in urgent care.
- 59. The Department, working with key stakeholders, should develop guidelines on patient pathways to promote consistency between urgent care providers.
- 60. The training of ambulance clinicians and call handlers should have greater commonality with that of other health professionals and their career pathways should be integrated with the wider NHS, so that people undertaking similar tasks and gaining similar competencies have the opportunity to train and develop together.
- 61. To aid integration, there should be a move to higher education delivered models of training and education for ambulance clinicians. Initial registration should be at diploma or foundation degree level.
- 62. There should be improved opportunities for career progression, with scope for ambulance professionals to become clinical leaders. While ambulance trusts will always need clinical direction from a variety of specialties, they should develop the potential of their own staff to influence clinical developments and improve and assure quality of care.
- 63. The Department, in conjunction with SHAs, should review funding arrangements where necessary to facilitate consistent access to funding. Funding of ambulance clinician education and training should be consistent with the arrangements for other non-medical clinical professions.

64. Ambulance services, PCTs, acute trusts, foundation trusts and SHAs will need to work together to review funding arrangements and priorities for the training of the overall urgent care workforce.
65. The Ambulance Service Association, the British Paramedic Association, NHS Employers, NHS Careers and NHS Jobs work together to market ambulance clinician roles as a profession with excellent opportunities for development and progression across the NHS.
66. Ambulance services should take increased steps to support the recruitment of black and minority ethnic staff.
67. When recruiting and designing new roles, ambulance services should also focus on the competencies, underpinning education, attitudes and behaviours required to deal with patient need and consider the increased use of and diversification into intermediate grades (between PTS and emergency ambulance grades) as well as more advanced and specialist clinical grades.
68. The recruitment and development of ECPs should continue at pace, encouraging recruitment from a variety of professional backgrounds, including within the NHS.
69. ECPs should be regulated as a profession in their own right with the Health Professions Council and prescribing responsibilities should be actively explored. This should include the development of a national curriculum for ECP training, with education programmes nationally accredited by the HPC and delivered by HPC approved higher education institutions, alongside HPC arrangements for CPD and clinical mentoring.
70. The Department should work with SHAs and ambulance services to develop a five year workforce development plan.



© Crown Copyright 2005

Produced by Department of Health

269299 1p 4k Jun 2005 (CWP)

Chlorine free paper

If you require further copies of this title quote

269299/*Taking Healthcare to the Patient: Transforming NHS Ambulance Services* and contact:

DH Publications Orderline

PO Box 777,

London SE1 6XH

Tel: **08701 555 455**

Fax: 01623 724 524

Email: doh@prolog.uk.com

Textphone: **08700 102 870** (for minicom users)

for the hard of hearing 8am to 6pm Monday to Friday.

269299/*Taking Healthcare to the Patient: Transforming NHS Ambulance Services* can also be made available on request in braille, on audio cassette tape, on disk and in large print.

www.dh.gov.uk/publications