

BRITISH ASSOCIATION FOR EMERGENCY MEDICINE



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1. INTRODUCTION

The past few years have seen unprecedented activity to improve the provision of emergency care. These initiatives have recognised the fundamental role of Emergency Departments (EDs) as being the centre of expertise of emergency care and the hub for the delivery of high standards of Emergency Medicine (EM). Such focus and investment is long overdue, following two decades of significant neglect and under-investment.

The Government, possibly prompted by high profile media coverage of distressed patients languishing in EDs for many hours or days awaiting admission into a hospital bed, were prompted to make emergency care one of the key aspects of improving the National Health Service in England.

As a result there has been frenetic activity, initially with the "Reforming Emergency Care" document followed by the appointment of Professor Sir George Alberti as the National Director for Emergency Care, the instigation of "See and Treat", the Emergency Services Collaboratives and a number of other initiatives. The principal driver for change, however, has been the 4-hour target. Despite reservations regarding the validity of time as a measure of quality of care and some of the short-termism applied to measures in order to implement the target, there is no doubt that the 4-hour target has been fundamental in delivering substantial improvements in EDs and throughout the emergency care system.

At the same time, other major initiatives which will influence the provision of care have occurred, in particular the European Working Time Directive (EWTD), the Modernising Medical Careers initiative to revolutionise the SHO grade and Hospital at Night (www.modern.nhs.uk/hospitalatnight).

These changes in delivery of Emergency Care in England are reflected in this revision of The Way Ahead. However, the pace of change continues relentlessly and there will be a need to update and revise some of the key aspects of this document in the relatively near future. Any changes will appear on the BAEM/FAEM websites. In Scotland, health is devolved to the Scottish Executive and many changes summarised in this document have not been implemented elsewhere in the United Kingdom.

The aim of this document is to provide colleagues within the specialty, other clinicians and managers with a clear understanding of the essential components of EM.

EM has been the pioneer in developing multidisciplinary team working for the benefit of our patients. We have also worked hard to abolish the previous territory demarcations which have hindered flow and interactions with colleagues from other specialties. The breaking down of boundaries is a fundamental theme for the future of emergency care, particularly the axis between EM and our colleagues in Acute Medicine as outlined in the Working Party Report of 2002 "Interface of Accident and Emergency and Acute Medicine" (www.rcplondon.ac.uk).

Given the inexorable rise in patients attending EDs with acute illness, this relationship between EM and the new specialty of Acute Medicine will become increasingly important. It is essential that this axis is optimised to ensure a streamlined and consistent approach, avoiding time-consuming and inefficient duplication. The document "The Emergency Department: Medicine and Surgery Interface Problems and Solutions (Department of Health 2004)" recommends that the duty medical SpR be based in the ED. Other practical steps include the development of joint guidelines and a common clinical record.

Although there is some overlap, specialists in EM have a specific role in the initial assessment and management of the undifferentiated patient. Some of these patients will present with conditions obviously requiring admission. Many patients, however, present with less typical symptoms which require a period of focused investigation in the ED Clinical Decision Unit/Observation area, (Keep and Treat) after which many of these patients can be safely discharged home, thus avoiding pressure on scarce hospital beds. Generally, this period of assessment under ED care will be less than 12 hours, although some patients may require a more prolonged period. Specialists in EM also see the entire range of emergency presentations including trauma, children, mental health problems and the less seriously ill and injured, etc.

Colleagues in Acute Medicine have particular expertise in the ongoing management of patients over a period of 24-48 hours, often referred by General Practitioners (GPs). Acute Physicians also take responsibility for in-patient care, out-patient review and may maintain an interest in another aspect of General Internal Medicine.

Specialists in EM and Acute Medicine are therefore not directly interchangeable and this should be acknowledged when workforce planning is being considered. However, these roles are complementary and, if appropriately modelled, will produce a clinically and cost efficient approach to the acutely ill patient.

We will be pleased to receive any comments regarding the content of this document and, in particular, suggestions for other topics not included at present.

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2. CORE CLINICAL SERVICE FOR EMERGENCY MEDICINE

(I) BACKGROUND

Most EDs are facing an inexorable rise in new patient attendances. The national average increase is usually quoted as 2% per annum, although many centres have seen rises of over 10% in recent years. The increased demand has not been matched by greater resources and the numbers of medical staff has been a particular problem. Faced with increasing demand and limited resources, it is proper that EDs should seek to define their core activity to ensure that their limited resources are deployed in the most clinically appropriate and cost-effective way. BAEM defines core ED activity as follows:

- The resuscitation, assessment and treatment of acute illness and injury in patients of all ages by appropriately trained and experienced staff, according to current national and local standards, and the onward referral of patients as required. This service will be available continuously 24 hours a day and will be Consultant led.
- Patients presenting within the following acute categories would be included in the core service:
 - trauma, usually within two days of injury;
 - pain, unrelieved by simple analgesia;
 - acute illness;
 - respiratory distress;
 - change in mental status, including alteration of consciousness and acute confusional states;
 - patients brought to hospital by the police, normally excluding patients detained under section 136 of the *Mental Health Act*;
 - patients brought to hospital by emergency ambulance;
 - patients appropriately referred by any other health care professional
- In addition, EDs may review patients for the reassessment and follow-up of defined conditions. The total number of planned reviews should not exceed 10% of all new patient attendances. The exact nature of review work to be undertaken should be negotiated locally. However this work would not normally include routine dressings or simple removal of sutures.
- Observation beds and Clinical Decision Units (CDUs), within or immediately adjacent to the department, can provide a valuable area for monitoring and supervision of patients. However, such units must be funded to ensure adequate medical and nurse staffing. Locally agreed arrangements must be in place to ensure that the facility is used appropriately and not misused, in particular by in-hospital admitting teams.
- EDs will lead the clinical arrangements for dealing with a major incident.

(II) DEFINITIONS

Defining the Specialty

What is EM?

EM is a field of practice based on the knowledge, skills and competencies required for the prevention, assessment and management of acute and urgent aspects of illness and injury. EM covers patients of all age groups with a full spectrum of undifferentiated and differentiated physical and behavioural disorders. It further encompasses an understanding of the development of out-of-hospital and in-hospital emergency medical systems and the skills necessary to participate in this development.

What is an Emergency Physician?

EM is practised by a wide range of medical, nursing and paramedical professionals. Within the medical profession there is a need for individuals with the necessary knowledge, skills and competencies to practice EM to a high standard, and drive the further development of our specialty. An Emergency Physician is a registered medical practitioner trained in the specialty of EM.

What is an ED?

The ED is the dedicated area in a hospital that is organised and administered to provide a high standard of emergency care to those in the community who are in need of acute or urgent care. An ED should offer:

- A 24 hours a day/7 days a week Emergency Physician led multidisciplinary service
- Assessment and management of acute illness and injury in patients of all ages by appropriately trained staff, according to national and local standards
- Observation Unit/CDU based medicine according to local needs
- Review work as appropriate
- Major incident planning
- A focal point for education, research and governance for the local emergency care system

The ED should be purpose designed and built. The physical components of an ED are described in the NHS Building Note.

A CDU/Observation Unit is a dedicated area for patients requiring a short stay (typically less than 24 hours). During their time in a CDU/Observation Unit patients may be investigated to obtain a definitive diagnosis or guide disposition, and/or be observed without treatment, and/or be actively treated with a view to early discharge home. The term Observation Unit is synonymous with the term Clinical Decision Unit.

Observation Units should form part of the ED and be juxtaposed with the parent department. Observation Medicine should be led by Emergency Physicians.

The Process of EM

EM can be expressed as a process of reception, assessment and management.

Reception comprises

- Registration
- Triage: This may be triage along traditional lines, or streaming of patients into appropriate areas where they will undergo further detailed initial assessment.
- See and Treat
- It is acknowledged that some patients may be redirected to a more appropriate facility for management of their problem.

Assessment comprises

- History
- Physical Examination
- Investigations: Patients within the ED should have access to the full range of investigations necessary to make accurate diagnosis in life threatening illness, and in conditions where early treatment and accurate disposition is required.

Management comprises

- Treatment: Treatment should, where possible, be initiated in the ED. This treatment should not be delayed whilst the patient is awaiting consultation from inpatient teams, or admission to an inpatient bed.
- Disposition: Accurate disposition is to the benefit of the patient, and should be guided by detailed assessment.

The process of EM should be subject to ongoing scrutiny as part of clinical governance arrangements.

What is an Emergency?

An Emergency is a condition where the patient is, or believed to be, suffering from an illness or injury requiring early assessment and or management, either to save life or limb, to relieve pain and/or suffering, or to prevent further deterioration in a treatable condition in order to reduce morbidity and mortality.

EDs may be asked to provide care for patients presenting with conditions that do not satisfy the definition of an Emergency, but whose needs could be met by other services. It is the responsibility of EDs to provide care, or facilitate access to appropriate care, for all patients who present, by whatever route.

ED Overcrowding

One of the biggest challenges facing EDs worldwide is that of ED overcrowding, which can lead to ED saturation.

Overcrowding describes a situation where ED function is impeded primarily because the number of patients waiting to be assessed, managed or admitted exceeds either the physical or staffing capacity of the department.

ED overcrowding adversely affects the quality of care delivered within EDs, as well as having a negative impact on ED staff. ED saturation represents an acute clinical risk.

The principal cause in 2004 is access block, aggravated by increased patient numbers, increased complexity of care and staffing shortages.

ED Saturation

Patient need (defined as timely assessment and management) cannot be met for existing and/or additional patients due to fully committed ED resources.

Access Block

Patients in the ED requiring inpatient care are unable to gain access to appropriate hospital beds within a reasonable timeframe.

The principal cause is inadequate system-wide bed capacity.

PATIENT DEFINITIONS

Accepted patients (lodged patients)

Patients who are treated in the ED by medical staff from another specialty, but who may receive nursing care from ED nurses. These patients are usually referred directly from GPs to in-patient clinical teams.

Such patients place significant demands on emergency resources and should be counted as a separate group of attendances.

Unplanned returns

Patients who return unexpectedly to the ED within five days of being seen there. Such patients should not be counted as a new attendance.

These patients should be reviewed by a senior member of the ED medical staff. This does not include the small number of patients who return within this time with an unrelated condition.

Attendances at an emergency clinic

Patients who attend an emergency clinic by appointment. They may be divided into:

- referrals from GPs or from other specialties; and
- planned returns

These patients should be identified as separate groups when assessing department activity.

(III) EXCLUSIONS

Primary care attenders

The ED is not designed to provide care usually delivered in general practice. Patients outside the broad core service definitions should initially seek help from their GP.

Patients who choose to attend the ED with such conditions should be redirected to the most appropriate source of health care.

The volume of patients needing primary care presenting to a particular department may justify the employment of GPs to meet this workload. This should be funded separately.

General Practitioner referrals

It is recognised that the future will see increased co-operation and integration between the traditional emergency care roles in primary care and EDs. However, it is important to establish a baseline which reflects the current situation in most EDs. Developments over and above this baseline should be negotiated locally, and supported by appropriate structures and resources.

Current EDs should not expect to:

- Provide assessment of non-acute problems or routine second opinions. These should be sought from the appropriate Consultant.
- Be used to circumvent delay in obtaining out-patient appointments. Such attempts should be drawn to the attention of the GP and the specialty involved.
- Provide routine investigations, including blood tests, radiology and ECGs. Access to these investigations should be negotiated with the appropriate department.

Patients with acute trauma may be referred by their GP, or practice nurse, after discussion with the ED with a referral letter. Referral by practice reception or administrative staff, or referral without a letter or prior discussion, should not occur.

Other referrals from GPs to the ED should be discussed by telephone with the most senior doctor on duty in the department. This may result in advice to refer directly to an in-patient team.

Other services

It is recognised that many EDs perform additional functions eg, minor operations lists, hand surgery, head injury management and follow-up. These services lie outside the core definition of an Emergency Service. They should be subject to separate local negotiations and funded separately.

3. RECOMMENDATIONS FOR THE FUTURE CONFIGURATION OF EMERGENCY SERVICES

No single pattern of service provision is appropriate for all parts of the United Kingdom. The following models would be applicable in different settings within the United Kingdom.

Within the major urban metropolitan areas

Where there are difficulties in providing safe levels of medical and nursing staffing or inadequate support in a number of departments a short distance apart, centralisation of emergency resources should be considered. This would allow increased Consultant and 24-hour middle grade presence within the department supported by all the necessary specialties, at appropriate levels of training and experience.

In addition to providing a high level of clinical shop floor cover, the increased Consultant and middle grade staffing would provide opportunities for excellent levels of supervision, training, teaching, research and audit.

Those hospitals with new patient attendances of greater than 40,000 per annum

The principles for EDs in this type of hospital are as follows:

- Departments must have immediate access to the key supporting specialties to allow an ED to function safely. The following should be available on site: intensive care, anaesthetics, acute medicine, general surgery, orthopaedic trauma. There should be rapid easy access to child health (preferable on-site), 24-hour access to imaging (including CT scanning) and laboratory services available on site.
- In these circumstances, such departments can provide high quality emergency care around the clock for any patient presenting to the department. For those patients requiring regional centre expertise, then safe stabilisation and transfer protocols must be in place.

These principles apply to such hospitals whether in metropolitan, urban or rural areas.

The smaller district general hospitals, seeing less than 40,000 new patients per annum

- Where such departments are able to demonstrate their effectiveness, safety and quality, then the status quo should be supported.
- If these departments have inadequate levels of support from other specialties or persistent staffing recruitment difficulties, then the role of such departments as major EDs should be reviewed.
- However, EDs of this size in geographically isolated areas should be fully supported in providing the optimal level of safe care for their local population.
- In some areas, the role of smaller departments would dovetail with the government strategy to expand the role of minor injury units, urgent care centres or similar facilities.

Minor injuries units/urgent care centres

- BAEM and FAEM would support the development of such units where appropriate. These could be staffed by NCCG medical staff and Emergency Nurse Practitioners.
- Such departments would not be able to support the training of SHOs or SpRs although, subject to approval, could provide training and experience for medical staff on rotation. Where possible medical and nursing staff working in such units should either rotate with major EDs or be seconded for continuing professional development to such units.
- The opportunity to use telemedicine in support of such units should be evaluated.
- The standards of medical care in such units should be under the direction of a Consultant in EM.
- These departments would be dealing with those patients with less serious injuries and illness. The departments would only be able to receive ambulance borne patients subject to locally agreed safe protocols. It would be essential for the medical and nursing staff in such departments to be able to provide the initial resuscitation for ambulance-borne patients subsequently requiring transfer. Minor injuries units cannot be considered capable of providing the same standards of resuscitation facilities as an ED.

4. RECENT INITIATIVES IN EMERGENCY CARE

In 2001 “Reforming Emergency Care” was published which outlined a strategy for developing emergency care in England. In particular reducing the delays in care have been the driving force behind many changes in order to achieve the NHS Plan target that all patients should complete their episode of care in the ED within 4 hours of arrival. Much of this work has been focussed through the Emergency Services Collaborative (ESC) of the Modernisation Agency. Initially the changes were mainly around processes within the ED, including introduction of streaming and “see and treat” for less serious cases.

In 2002 the “see and treat” principles were promoted by the Modernisation Agency and have now been widely adopted. The key principles are for patients to be seen by a clinician who can make the relevant decisions as early as possible. The long-standing principle that all patients should be triaged first was challenged. Now it is generally accepted that if triage is simply a prioritisation exercise then it only needs to be undertaken if there is a delay in the patient seeing the clinical decision maker. However in many places triage has developed to include many other processes, including ordering tests and administering pain relief. Where this adds value for the patient and does not delay care then it is obviously beneficial. These principles are equally valid for more serious cases and many EDs are developing systems of early senior assessment to improve the care of these patients. Both of these initiatives and many others are resulting in more senior involvement in clinical care within EDs. This has been reflected by the increasing numbers of Consultants in the specialty. Increasing the number of non-Consultant non-training grades is another priority and it is vital that their terms and conditions reflect the nature of their work. The availability of middle and senior grade staff is likely to be the major limiting factor in these developments in the future. Manpower and the effects of some policy changes (eg, EWTD, Modernising Medical Careers) are discussed further in the next chapter.

The practice of EM has been undergoing constant evolution but perhaps the largest change in the workload of the specialty has been the increasing input in those patients with serious illness. Twenty years ago, those with potentially serious medical or surgical conditions had an initial work up in the ED and were then admitted for further investigation. Increasingly serious conditions are ruled out in the first few hours and admission to hospital can be avoided. This period of intense assessment, investigation and observation is increasingly becoming the remit of the EM specialist. Many EDs are establishing CDUs where this work is undertaken according to agreed care pathways. Local circumstances are determining whether EM specialists, acute physicians or other specialists manage these units.

The role of the subspecialty of acute medicine and its interface with EM is still widely debated. Nurse Consultants have been appointed in many EDs but their roles are highly variable. Training programmes for such senior clinical nurses are only just being established and will be vital to ensuring that nurse Consultants maintain the clinical role for which they were developed. For those with less serious injuries there has been an increasing role for Nurse Practitioners and other allied health professionals.

The role of Nurse Practitioners in the care of less severe injuries has been shown to be safe and effective. Other new ways of working are developing rapidly but many are still unevaluated. The change in role of these individuals has been assisted by their ability to deliver drugs under patient group directives and the increasing ability of nurses to prescribe medication. The Hospital at Night project has proposed new ways of working at night, whereby teams of medical and other health staff join together across existing specialty boundaries to cover a hospital at night. In some cases these teams may involve the ED doctors. There are already discussions about whether such emergency team working could also be effective for managing the daytime emergency take.

During 2003 and 2004, the ESC gave EDs the opportunity to share ideas and develop new practices. This has resulted in many changes which are summarised on the ESC website in the case histories pages. After an initial period of focus mostly on EDs, the focus changed to work across the whole emergency care system with the wider realisation that there are many influences of the inflow and outflow from the ED that can influence the time a person spends in the department. Work is now concentrating more on the outflow from the ED by decreasing the wait to be seen by admitting teams and by improving bed management processes throughout the patient's hospital stay.

The change in provision of out of hours care has now commenced and its full effect on EDs has not yet been fully realised. Some areas have already seen increases in the numbers of patients attending which they ascribe to these changes. It has also been an opportunity to integrate emergency primary and secondary care. Many EDs are starting to be co-located with the emergency primary care service. These changes across whole systems need to be coordinated and emergency care networks are now being established to develop a more patient focussed approach to emergency care. In the future, developments in chronic disease management, particularly the case management approach, may have a marked impact on the emergency presentations of chronic disease to emergency care with a potential to halve emergency admissions for some individuals.

In some areas of the country there have been some dramatic reconfigurations of service. These are often precipitated by withdrawal of a key service (eg, paediatrics, general surgery, anaesthetics) from a hospital because of staffing or training issues. This can often have a dramatic effect on the provision of EM. "Making the NHS Local" stresses the importance of being responsive to local needs. Various models are being proposed at present for the provision of EM in small or isolated sites. It is vital that communities have timely access to high quality emergency care, including EM specialists, but it is also vital that those specialists have good access to the support services they require.

The present trend appears to be towards establishing networks of urgent care centres feeding to a central ED, often with telemedicine links. But it must be remembered that a minor injury service or urgent care centre with an associated medical assessment unit will not provide the same service as an ED. Work is underway to evaluate various models but, in the meantime, any decisions on reconfigurations need to be fully informed of their potential impact on emergency care of their communities.

Although the driver for many of these changes has been to reduce waits in EDs, there are many other aspects of care that are important to the patient. The development of quality standards that apply to both the ED and other emergency care providers is an important step.

The DoH has developed national Health Care standards and the Healthcare Commission will expand on these to produce standards of care that will be measured across the NHS in England.

Over the last three years the focus of modernising emergency care has been mostly focussed on reducing waits in the ED and dramatic changes have occurred. But the next phase needs to be looking at the wider issues of quality of care. The National Patient Safety Agency is looking at developing a programme of work around reducing risks in the ED. BAEM has developed a series of clinical standards. Some of which have been adopted by the Audit Commission for their national survey. The Healthcare Commission is developing standards for the NHS to consider the broader measures of quality. The first national patient survey was undertaken in EDs in 2003. This will be undertaken regularly in the future and will become an important measure of user satisfaction with the service. The first survey has demonstrated a generally high level of satisfaction but has also highlighted the need for more development in areas of patient communication and responding to individual needs. The Choice initiative will also mean that EDs need to examine the way they respond to users. Although the main concern of this initiative is choosing between hospitals for elective work there are still choices in emergency care such as the right to choose who treats them, the right to choose between treatments and the right to choose between alternative providers. With choice also comes patient responsibility but before choice must come information. It will therefore be important that patients have better sources of information on which to base their decisions.

In the last few years the National electronic library for health has established an emergency care specialist library (www.nelh.nhs.uk/emergency). This has already developed a guide to modernising emergency care in the NHS ("Managing Emergency Care") and is now developing a library of clinical guidelines and systematic reviews. NICE is developing key guidelines and has already produced several relevant to EM that are changing practice eg, Head Injury, COPD. In parallel BAEM is developing clinical guidelines, which will also be added to the specialist library, along with other established national guidelines. The National Programme for Information Technology has determined the service providers and is rapidly developing systems. There is an opportunity in these developments for EDs to not only have electronic records but to have easy access to high quality clinical information.

Whilst government attention is still focussed on emergency care there are still many opportunities to improve the care given in EDs.

5. WORKFORCE ISSUES

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Summary
Introduction and strategic context
The skills needed in EM
Styles of EM Consultant work
How should we calculate staffing needs
Examples of staffing profiles of smaller, medium and large departments
Consultant work patterns
Specialist Registrar work patterns
Appendix 1 Justification of numbers of patients seen by different staff
Appendix 2 Sensitivity analysis (how the numbers of staff required vary with varying work rates)

SUMMARY

1. The workforce requirements of EM are going through a period of great change.
2. It is clear that "one size will not fit all". The variables of case mix, availability of support staff, local procedures and ED overcrowding due to prolonged wait for hospital beds will all impact on the efficiency of staff and the rate that they can see patients.
3. EDs are still heavily dependant on junior doctors for the direct provision of care. The proportion of new patients seen by juniors is decreasing. Proposed changes in training envisaged in "Modernising Medical Careers" will have a major impact on the numbers of patients that these doctors will see. *This document has used current training patterns to gauge the workload of junior doctors as this is the only evidence we have at present.*
4. Changes in training which reduce the service input of junior staff will seriously affect the provision of emergency services. There is little evidence that there is a large pool of trained workforce who might be able to fill any deficits.
5. Consultant roles are changing. However in smaller departments with 3 wte or less Consultants, the role will be to provide clinical supervision, organisation, training, and management to the department. The major input to patient care will be in the supervision of other staff, running clinics and the care of the seriously ill and injured. Consultants will see new patients but they should not be included in the calculations for staff numbers.

6. In larger departments, Consultants will spend a greater proportion of their time in seeing new patients. A Consultant on a 10 programmed activity (PA) contract, 5 of which are direct "shop floor" cover, might see 800 new patients per year with an average case mix.
7. Numbers of Consultant staff per unit will depend on the type of service required. All departments should have a minimum of three Consultants. In departments with average case mix, one Consultant per 12,000 total patient attendances should be able to provide the clinical leadership, clinical supervision and educational supervision required. Medium sized departments (40,000-70,000 total patients per year) should have up to six Consultants and large departments (70,000+) should have more than six Consultants.
8. If some of the changes suggested in "Modernising Medical Careers" are implemented, the clinical and educational workload on Consultants will increase by about 50%. This will require a review of the numbers of Consultants required for a given level of service.
9. With only three Consultants it is not possible to schedule clinical cover for even 40 hours per week. 6 wte Consultants should be able to provide 12 hours daytime cover on weekdays and 6 hours at weekends.
10. An average SHO with 44 clinical hours per week, seeing an average case mix of patients might see 3,000 new patients per year. This might be as little as 2,000 in some departments with a "heavy case mix".
11. It is an aspiration that all EDs will have 24 hour cover by experienced staff. It will take a minimum of 8 SpRs to provide this level of cover (32 clinical hours per week).
12. An SpR working a 48 hour per week contract with 8 hours training time and 3 months secondment time should see 1, 300 new patients per year.
13. An experienced EM doctor working in a straight "service provision" role with no responsibility to supervise, no teaching role and working 32 clinical hours per week might see 2,800 new patients per year (average case mix).
14. A minor injury Nurse Practitioner working 37.5 hours per week might see 2,500 new patients per year.
15. The development of CDUs/Observation Wards will require additional medical staffing. Input in this must reflect in the workforce calculations. Guidance on this issue will be made available via the BAEM/FAEM websites in the near future.
16. Consultants should agree call-in criteria based on clinical need and should not be expected to return to the ED to ensure compliance with the 4-hour target or "queue-bust".

INTRODUCTION AND STRATEGIC CONTEXT

Proper staffing of the whole Emergency system is the single most important factor in providing an appropriate, timely and clinically effective service to patients. A large number of new factors have emerged that have changed the staffing of ED. A number of further changes of great magnitude are about to impact on the NHS and these will present great challenges to emergency systems in the future. It is clear that EM is going to play a pivotal and increasing role in the emergency system and will require a well trained and motivated workforce if the ambitious targets in the NHS Plan are to be met.

EM Consultant numbers in England have increased, allowing a much greater involvement in clinical work in many departments. This trend will continue. Consultants have always been involved in supervision, training and in the resuscitation room they are now providing more front line direct patient care. They are also being involved more in "clinical management" roles of managing patient flows and directing staff.

There has been a great expansion in numbers and scope of practice of Nurse Practitioners and Nurse Specialists and Nurse Consultants. In some departments 25% of the workload may now be managed by nurses. However these staff still require senior medical advice to assist with the unusual or difficult case.

Changes in Junior Doctor Hours of work, training and educational requirements and increasing complexity of work in the context of an increasingly litigious society, mean that SHOs see fewer patients than previously. With increased requirements for clinical governance and more senior support available they are to be able to ask for advice more often.

SpRs make a major contribution to supervision, teaching and the clinical work of the department. The shape of the training programme may change with more training taking place in the ED.

Some departments in large inner city areas with less availability of primary care have successfully employed GPs. The trend in the future may be to co-locate out of hours primary care near to the ED to allow triage of patients to the appropriate facility. These Out of Hours centres will be the responsibility of Primary Care Trusts and are probably best managed by primary care.

Box 1 - Changes in work roles of clinical decision makers over the past 5 years

- Changing role of the Consultant
- Changes in Junior Doctor Hours
- Changes in junior doctors' training and education
- Emergency Nurse Practitioners- Minor injury
- Nurse specialists (eg, chest pain)
- Nurse Consultants
- Physician's assistants
- Primary care doctors
- Expanded out of hospital role
- Emergency Care Practitioners
- Increased pressure of work and targets
- Change in casemix to more older patients with more challenging diagnostic problems
- Pressure to keep patients out of hospital

Box 2 - Government policies affecting Emergency Care

The political and clinical face of emergency care is being shaped by a number of Government policies that will present major challenges to the present structure of ED.

- "Reforming Emergency Care" (England)
- European Working Time Directive
- Modernising Medical Careers
- The new Consultant contract
- The new contract for General Practitioners
- "Keeping the NHS Local" (England)

The pressures imposed on the provision of emergency cover in acute hospitals by the European Working Time Directive (EWTD) and changes to the training and education will pose great challenges to all hospitals but will have special implications for smaller units.

In "Keeping the NHS Local" the DOH has signalled the end of the "District General Hospital" with the full range of supporting services that has been the corner stone of the secondary emergency care structure. Some units will lose 24 hour surgical cover, others will have much reduced surgical cover. Some may have minimal on site medical cover.

The new GP contract will have a major impact on the whole emergency system. It appears that the majority of GPs will probably opt out of the responsibility for the provision of out of hours primary care and it is not clear how this gap is going to be filled.

Modernising Medical Careers

While the proportion of new patients seen by SHOs has fallen significantly over the past five years, EDs are still heavily dependant on these doctors for the provision of service. The Government has developed a broad strategy to change training, "Modernising Medical Careers". The specialty of EM has been at the fore front of training junior doctors in generic skills and in the care of the acutely ill patient. Indeed in 1993 BAEM published a competency based curriculum for SHOs that included team working and communication skills. EM is well placed to meet the educational needs of the second Foundation year.

These changes could however have a huge negative impact on the operation of EDs. The figures used in this document are taken using the current norm of 6 month SHO jobs. No clear model has emerged for the second Foundation year. Some suggestions such as moving to 4 month rotations will seriously reduce the rate that SHOs will see patients. It will increase the training and supervision demands on middle grade and Consultant staff. The additional demands of induction, mentoring and assessment of 3 or more groups of SHOs per year, are huge.

THE WORKFORCE ESTIMATES IN THIS DOCUMENT ARE BASED
ON PRESENT PATTERNS OF JUNIOR DOCTOR TRAINING.

IT IS POSSIBLE THAT CHANGES TO JUNIOR DOCTOR TRAINING
COULD INCREASE THE SUPERVISORY AND EDUCATIONAL DEMANDS
ON MIDDLE GRADE AND SENIOR STAFF BY UP TO 50%.

Summary

The rapidly changing organisational environment and changing workforce patterns make it difficult to predict the staffing structures for the ED of the future. It is clear that in the future there can be no easily followed formula for ED staffing. "One size will not fit all".

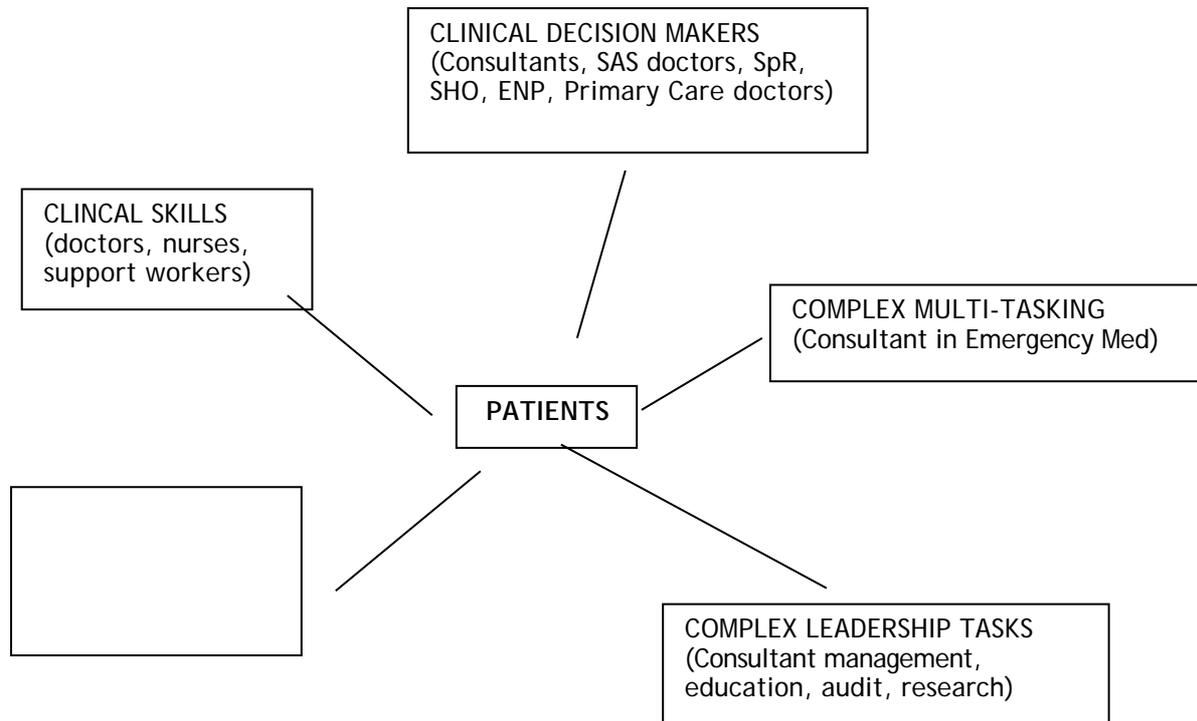
Therefore this document will look at the competencies needed to provide an EM service, the types of staff that will fulfil these roles and give some indication of the numbers of staff that might be needed. The proportions of various types of staff will vary according to local conditions.

THE SKILLS NEEDED IN EMERGENCY MEDICINE

The clinical work in EM can be divided into various skills. This helps to understand the requirements of a department. This was the approach taken by the A&E Modernisation group (Workforce Monograph, DoH 1999).

Every department will need these skills. The numbers and types of staff delivering these skills will vary between departments. It is common for ED staff to work down the skill level eg, a Consultant will be able to work at most of these levels and will often do so when the department is busy. However this is not the best use of the Consultant's higher level skills, is not cost effective and other staff are unable to act up to cover a Consultant role.

Figure - Job analysis for the ED



- **Complex leadership tasks**

These tasks will be in many aspects of the department's work. Management, education and research need dedicated time to take these agendas forward. All departments will have a basic requirement for management and educational leadership roles. Increasingly the skills of EM Consultants are being sought as managerial leaders of emergency care systems, medical director roles and ambulance Trusts. At present not all departments will have a need for a research leadership role.

- **Complex multi-tasking roles**

This is the hallmark of a Consultant. They need high level knowledge, skills and attitudes across the whole range of clinical problems presenting to the department so they can provide supervision, advice and support to the rest of the staff and key clinical skills to the seriously ill and injured. They also have a wider appreciation of the legal, ethical and managerial context of EM work and are able to apply this to the clinical situation. They have clinical management and leadership skills.

- **Clinical decision makers**

This is the main work unit of the department. They make a clinical assessment of the patient, decide on appropriate investigations, treatment and disposal. Most of the time they will work autonomously, especially in the management of routine cases. The level of autonomy and need for supervision is a function of experience and training. Consultants are autonomous, SpRs, Staff Grade and Associate Specialist (SAS) doctors, and Nurse Practitioners are largely autonomous in the care of routine cases. SHOs will require a lot of training and supervision, especially early in their post. However because SHOs derive great training and educational benefits from EM. Because the period of hard, unsocial hours work is time limited to six months for most, they are willing to accept the rota.

- **Clinical skills staff**

A Consultant will have most if not all the clinical skills the department needs. However many of these skills can be taught to other staff and allow freeing up of medical time. Taking blood, siting IVI, routine wound care, can all be taught to other types of staff. These staff provide the practical skills base to the department.

- **Non-clinical skills staff**

Reception and administration staff, clerks, secretaries, porters, security staff all have key roles in the smooth functioning of the ED. They will have non-clinical specialist skills essential to the proper management of the department.

STYLES OF EMERGENCY MEDICINE CONSULTANT WORK

BAEM and FAEM published a document on the future of Consultant staffing in ED in 2002. This has been updated to take into account the new Consultant contract. The numbers of Consultants needed in any given department will depend on the type of Consultant cover required.

In reality, successful ED Consultants demonstrate complex multi-tasking by moving seamlessly between the following three styles of working, sometimes within the same shift. The categorisation may be useful in planning consultant staffing in an ED.

Command and control

- large part of the job plan involves non-clinical management roles, teaching, audit and research. Clinical roles mainly involve supervision, second opinions, care of the critically ill patient.

This would be the commonest model in the past and may still be the most cost effective model for small departments. A department needs certain fixed times to be spent on management, education and audit, irrespective of the size of department. With only 3 Consultants these roles will take up a significant part of the job plan.

Clinical roles would typically be for 5 shop floor programmed activities per week. The other 2.5 clinical programmed activities will be taken up by clinics, patient related administration (notes, results, complaints). This allows a maximum of 9.00 am-5.00 pm Consultant cover Monday to Friday. With this level of staffing it will be difficult to cover all clinical activities during annual leave or other absences.

Clinical managers

- Programmed Activities during which they provide a continuous physical presence in the clinical area, directing patient flows, directing staff, care of the critically ill and direct clinical supervision.

The main role is the management of patient flows around the department. This may be advanced triage or actively directing the work of the junior staff. This is becoming the work pattern in large multi-Consultant departments.

Clinical decision makers

- Frontline work seeing patients, "see and treat", advanced triage, perhaps not the best use of Consultant time to be only employed in this role (but Consultants may need to do this as part of a varied working week).

This is a role that all Consultants would undertake but to use them in this role exclusively is not the best use of a Consultant's skills. Given the current numbers of Consultants and expected rates for Consultant expansion it is impossible to envisage a Consultant provided service.

HOW SHOULD WE CALCULATE STAFFING NEEDS?

The concept of "service equivalents" in the last "Way Ahead" document, while subject to debate, proved very popular. It seems difficult to reduce the professional tasks of an EM doctor to stark numerical terms but this approach does provide a starting point for the calculation of staffing requirements. Until very recently most departments were unable to reach the types of workforce levels suggested by previous documents, usually due to financial constraints.

Waiting time targets

Would these levels of staff guarantee meeting targets? Meeting the 4 hour target is a complex issue. There is good evidence that the main determinant of ED waits is patients waiting long times for admission. No matter how well staffed the ED, if there are long delays for admission the efficiency plummets. Also larger departments have greater problems in managing work rates.

These figures are based on staffing data at a time where English EDs were staffed to meet 90% 4 hour targets.

Meeting a 98% target is going to present major challenges for emergency systems and clinicians and managers will have to engage in local debate about the resources required to meet individual targets. To meet a 98% target an ED would need to be staffed at above average levels to cope with peaks in demand. It is also essential that the whole of the rest of the hospital co-operates to ensure speedy management of acute cases.

Definition of a workload unit

Recent evidence from EDs reveals that on average, SHOs might see between 2,000 and 3,000 patients per year. This document will use 3,000 patients per year as the “*workload unit*”. This is a fall from previous years but is based on direct evidence. The reasons for the change are likely be multifactorial but include a change in the demographics with medically ill and more elderly patients and less minor injury work, less experienced SHOs plus more time spent in formal training, especially real time clinical training.

These figures can only be used as an approximation as unit size, policies, support staff, delays for admission will all impact on the rate that staff can assess and treat patients. Appendix 2 presents a method for recalculating numbers of staff required where the work rates of staff in your unit do not match those in this document. (Appendix 2, Sensitivity Analysis).

(Justification of these numbers is given in Appendix 1)

1 workload unit (wlu)= 3000 new patients per year

GRADE STAFF	CLINICAL HOURS PER WEEK	CASEMIX	WORKLOAD UNITS
SHO	44	NORMAL	1.00
SHO	44	HEAVY	0.60
SpR	32	SUPERVISION+NP ¹	0.40
SAS DOCTOR	32	NORMAL	0.80
CONSULTANT	20	SUPERVISION+NP ¹	0.25
CONSULTANT	20	NORMAL, NP ONLY	0.50
CONSULTANT	20	MINOR INJURY ²	0.70
NURSE PRACT	37.5	MINOR INJURY	0.80

Normal case mix indicates an average admission rate of 15-20% with full numbers of minor injury and paediatric injury cases.

Heavy case mix indicates large numbers of ambulance and trolley cases, more complex moderate illness and less minor injury or paediatric cases.

1. Workload includes the clinical management of the department and supervision of other staff.
2. This figure is for comparison purposes only it would be an unsustainable job description for a Consultant.

EXAMPLES OF STAFFING PROFILES OF SMALLER, MEDIUM AND LARGE DEPARTMENTS

The best way to provide ED staffing will be for local Emergency Care Systems to decide. As a minimum there should be access to a Consultant led ED which has adequate staff to produce all the outputs required (including teaching, management and research).

Smaller units (less than 40,000 total attendances per year)

Example 40,000 patients per year = 13 workload units

(Average case mix- 15-20% admissions, 25% paediatric cases, 50% adult minor injury cases)

Level of service - Minimum of three Consultants who would enable mainly "command and control" model. It would not be possible to guarantee shop floor cover for 8 hours a day, five days a week. It would take 3.5wte to do this. On-call rota.

Middle grade - A minimum of 8 doctors would be needed to provide 24 hour cover. This may not be economical or clinically justifiable as the numbers of patients at night might be small. There may be need to consider this role as "middle grade doctor for hospital" role. This will further complicate the workforce calculations as obviously a middle grade covering the hospital cannot be seeing new patients in the ED.

Clinical decision makers

This is made up of work provided by middle grade staff, SHOs, and Nurse Practitioners.

Numbers may vary with skewed case mix

ENP	2,500 patients per year (minor injury/illness)
SHO	3,000 patients per year (normal case mix)
Middle grade	1,800 (SpR 1,400, SAS 2,400 patients per year (normal case mix))

Given the lack of clinical time Consultants should not be added into this calculation.

Middle grade	8 x 0.6 wlu	=	4.8wlu (assuming ED work only)
SHO	6 x 1wlu	=	6wlu
ENP	3 x 0.8 wlu	=	2.4wlu
Total			13.2 wlu

(Note: while some flexibility around the distribution of staff might be possible, the groups are not interchangeable, for example, ENPs do not manage a full case mix, their work focuses on minor injury/illness care and locally agreed specialised roles. ENPs would only be able to offer support to other staff in very specific areas and not across the whole range of ED workload).

Medium units (40,000- 70,000 total attendances per year)

Level of service - Minimum of six wte Consultants who would provide 5 programmed activities of direct shop floor cover. 12 hour per day weekday cover, and 6 hours per day weekend cover. On-call rota.

Middle grade - The minimum of 8 doctors would be needed to provide 24 hour cover. Essential in a department of this size and throughput.

Example -70,000 patients = 23 workload units
(Average case mix- 15-20% admissions, 25% paediatric cases, 50% adult minor injury cases)

Clinical decision makers

This is made up of work provided by middle grade staff, SHOs, and Nurse Practitioners.

Numbers may vary with skewed case mix

ENP	2,500 patients per year (minor injury/illness)
SHO	3,000 patients per year (full case mix)
Middle grade	1,800 patients per year (full case mix)
Consultant	500-1,000 cases per year + direct supervision

Workload calculation 70,000 = 23wlu

Consultants	6x 0.25wlu	=	1.5wlu
Middle grade	8x 0.6wlu	=	4.8wlu
SHO	11 x1wlu	=	11wlu
ENP	8 x 0.8wlu	=	6.4wlu

(Note: while some flexibility around the distribution of staff might be possible, the groups are not interchangeable, for example, ENPs do not manage a full case mix, their work focuses on minor injury/illness care and locally agreed specialist roles. ENPs would only be able to offer support to other staff in very specific areas and not across the whole range of ED workload).

Large units (70,000-100,000 total attendances per year)

Level of service - Minimum of eight wte Consultants who would provide 5 programmed activities of direct shop floor cover. 12 hour per day weekday cover, and 8-12 hours per day weekend cover. On-call rota.

Middle grade - The minimum of 8 doctors would be needed to provide 24 hour cover. Essential in a department of this size and throughput. It is likely that the volume of serious cases will require double cover for long periods of the day/evening and while 8 is a minimum 10 is more likely to result in a quality service.

Example

100,000 unit- average case mix =33 workload units

(Average case mix- 15-20% admissions, 25% paediatric cases, 50% adult minor injury cases)

Clinical decision makers

ENP	2,500 patients per year (minor injury/illness)
SHO	3,000 patients per year (full case mix)
Middle grade	1,800 patients per year (full case mix)
Consultant	500-1,000 cases per year + direct supervision 2000 cases per year

Workload units per 100,000 = 33

Consultants	8x0.25wlu	=	2wlu
Middle grade	10x0.6wlu	=	6wlu
SHO	18 x 1wlu	=	18wlu
ENP	9x0.8wlu	=	7wlu
Total			33wlu

(Note: while some flexibility around the distribution of staff might be possible, the groups are not interchangeable, for example, ENPs do not manage a full case mix, their work focuses on minor injury/illness care and locally agreed specialist roles. ENPs would only be able to offer support to other staff in very specific areas and not across the whole range of ED workload).

Summary table of *EXAMPLE* staffing with departments with average case mix

Total pats	Workload eqv	Consultants	Middle grade	SHO	ENP
40,000	13	3	8	6	3
70,000	23	6	8	11	8
100,000	33	8	10	18	9

CONSULTANT WORK PATTERNS

The last two years have seen great changes in the work of EM Consultants in England.

- Much more clinically based
- The adoption of new ways of working such as clinical area management and "see and treat"
- Extension of hours beyond the normal working week

The new Consultant contract has given a framework for this work. The contract envisages a 40 hour working week, or 10 programmed activities.

It is important to realise that it is becoming increasingly obvious that "one size does not fit all" in terms of working patterns for Consultants. The following is an attempt to describe reasonable patterns of work that will make the job sustainable and provide maximum levels of clinical input. It will be for the management and the Consultants in each department to determine the best pattern of clinical working.

Assumptions

Consultant availability

A Consultant will have 6 weeks annual leave and 10 bank holidays per year.

They will need 10 days of study leave per year.

They will need 10 days of duty leave per year (mainly for teaching ATLS/APLS/ALS). Some Consultants will need more duty leave and this would be negotiated in job plans.

This is 12 weeks per year when the Consultant will not be available for the rota.

Therefore the Consultant is available for work 40 weeks per year.

Departmental non-clinical requirements

There are a number of requirements that a department will have irrespective of size. These may increase in larger departments. These figures are calculated using current working patterns. If changes in SHO work patterns change (eg, to 4 month jobs), then the supervisory work and teaching requirements will increase by at least 50%.

Clinical Director

3 programmed activities

Teaching organisation

2 programmed activities (may be up to 4 in large teaching departments)

Non-clinical duties of Consultants

2.5 programmed activities per Consultant

Consultant duties

5 programmed activities front line clinical work

2.5 programmed activities patient related work (CDU, clinics, patient related admin, X-ray meetings, etc)

2.5 programmed activities non-clinical work

It is possible that Consultants may elect to contract for extra clinical programmed activities. Obviously if all Consultants in a department contract for 12 programmed activities, the clinical cover could be increased.

Some Consultants may negotiate a different mix of sessions in respect of other management duties. This will need to be considered on an individual departmental basis.

Sample rotas for departments

A small three Consultant department

Available programmed activities per week	30
Take away leave programmed activities (20%)	-6
Take away "base requirement" programmed activities	-5
Take away non-clinical programmed activities (2.5/cons)	-7.5
Take away emergency on-call worked	-1
Clinical programmed activities available	10.5

Thus a three Consultant department would have clinical cover for 8 hours a day, Monday to Friday most of the time. However this would include all clinical activity, including clinical administration, clinics and ward work. There is not enough Consultant time to have a "shop floor" presence.

There is not enough Consultant time to insist on evening or weekend clinical programmed activities. Some departments with lighter teaching/ management loads may be able to introduce some evening working.

Equally a Trust may wish to pay for extra programmed activities for management or clinical work.

A six Consultant department

Available programmed activities per week	60
Take away leave programmed activities (20%)	-12
Take away base requirement programmed activities	-5
Take away non-clinical programmed activities (2.5/cons)	-15
Take away emergency on-call worked	-1
Clinical programmed activities available	27

This would allow:

- Clinical Consultant programmed activities 12 hours a day Monday to Friday (15 programmed activities)
- Double cover 4 hours per day Monday to Friday (5 programmed activities)
- 6 hours cover Saturday and Sunday (4 programmed activities)
- Additional Consultants in departments on non-clinical duties 4 programmed activities per day Mon-Fri

An eight Consultant department

Available programmed activities per week	80
Take away leave programmed activities (20%)	-16
Take away base requirement programmed activities	-7
Take away non-clinical programmed activities (2.5/cons)	-20
Take away emergency on-call worked	-1
Clinical programmed activities available	36

This would allow:

- Clinical Consultant programmed activities 12 hours a day Monday to Friday (15 programmed activities)
- Double cover 8 hours per day Monday to Friday (10 programmed activities)
- Triple cover 4 hours per day Monday to Friday (5 programmed activities)
- 9 hours cover Saturday and Sunday (6 programmed activities)
- Additional Consultants in departments on non-clinical duties 4 programmed activities per day Mon-Fri

SPECIALIST REGISTRAR WORK PATTERNS

What currently constitutes SpR training in EM will change with the implementation of "Modernising Medical Careers" and run-through training. With a more structured early career pathway, hopefully covering some or all of the current "core specialties" (anaesthetics and intensive care medicine, acute general medicine and cardiology, paediatrics, orthopaedics and surgery in general), the requirement for "secondments" will diminish. Current outline plans would leave 3 years EM training at the end of the programme of which at least 30 months would be spent in the ED. Over the course of this EM training SpRs may need to work out of the ED to complete particular areas of their training. The period of out of department training in this new model is likely to be a maximum of six months.

Current SpRs are entitled to up to 30 days study leave per year, up to 15 days of which may be taken for regional EM SpR training days/half days. Up to 15 additional days are available for external study leave. In addition to this study leave, SpRs' duty rosters may include one half day per week for research/audit.

SpRs on a 48-hour per week full shift rota would, excluding study leave and out of department training, spend 44 hours a week on rostered clinical work.

They would have up to 8 weeks holiday a year (current allocation for SpRs in years 3 and above is 6 weeks + 10 bank holidays). They would be working out of the department for up to 6 months of the 36 in EM, or an average of 8 weeks per year. They may be absent for a total of around 4 weeks (30 days) on study leave, taken to attend regional training days and external courses.

This means the SpR would be available for work only 32 weeks per year (1408 hours). At one patient per hour new + supervision of junior staff, 1,400 patients.

(Current model - 48 hours per week, 8 hours training (4 hours protected teaching/educational time and 4 hours regional training (SL) on average per week) gives 40 clinical hours per week. 31 weeks per year (11 secondment, 6 weeks annual leave and 10 Bank Holidays, two weeks study leave (in addition to 8 hours training). This gives 1240 hours per year, new patient 1 per hour - 1,240 per year patients + clinical supervision).

JUSTIFICATION OF NUMBERS OF PATIENTS SEEN BY DIFFERENT STAFF

Information provided by the BAEM shows variation in the numbers of patients various grades of staff will see per hour. This variation will be explained by case mix and departmental procedures.

SHO	1 to 2 patients per hour
ENP	1 to 2 patients per hour (minor injury/illness)
Middle grade staff	2 patients per hour (patient care duty only)
Middle grade staff	1 patient per hour (patient care and supervision of junior staff)
Consultant	1 patient per hour (patient care and supervision of junior staff and clinical case management)

SHO

44 clinical hours per week, six weeks holiday per year (including bank holidays), 1 week study leave. 3,000 patients per year (1.5 patients per hour). This is very dependant on case mix. If dealing with minor injury only, the rate might be 2 patients per hour but if dealing with major cases, only one patient per hour.

Consultant

5 (20 hours) programmed activities per week, 40 weeks per year = 800 hours per year

If the "shop floor duty" includes clinical supervision of juniors and the new patient area the Consultant might see 800 patients per year. If the Consultant has no other supervisory duties they might see 1600 cases per year (two patients per hour, average case mix). This is based on a 10 programmed activity contract, 5 programmed activities of direct clinical "shop floor" supervision, 2.5 programmed activities other direct clinical care including allowance for on-call care, clinics and observation ward work, clinical administration and 2.5 other supporting activity.

Consultant

5 (20 hours) programmed activities per week, 40 weeks per year, only engaged in direct patient care, average mix of resus/majors/minors work - 1,600 patients per year (two patients per hour).

Consultant

5 (20 hours) programmed activities per week, 40 weeks per year, only engaged in minor injury work and fully supported by appropriate support workers, (this is for example and is an unrealistic job plan) 2,400 patients per year (three patients per hour).

Staff Grades and Associate Specialists

32 clinical hours per week. 44 weeks per year. 2,800 patients per year. (two patients per hour), minor injury 4,200 patients per year (unrealistic for example only) (three patients per hour).

Specialist Registrar

This will depend on the type of training programme. The traditional model envisages that 25% of the time will be spent on "secondment" and will not be available for clinical work. In the future it is envisaged that they will spend most of the time training in the ED.

Traditional Model

48 hours per week, 8 hours training gives 40 clinical hours per week. 31 weeks per year (11 secondment, up to 6 weeks annual leave and 10 Bank Holidays, two weeks study leave in addition to protected training time). This gives 1240 hours per year, New patient 1 per hour - 1,240 per year patients + clinical supervision.

New Model

48 hours per week, up to 4 hours for research/audit, 44 clinical hours. 32 weeks per year (up to 6 weeks holiday, 10 bank holidays, 4 weeks study leave (regional training days + external SL) and average 8 weeks out of department per year in final 3 years of "run through" training). At one new patient per hour, 1, 408 patients).

These are little different.

SpR = 1,400 patients per year

Minor Injury Emergency Nurse Practitioner

37.5 hours per week, 6 weeks holiday (including bank holiday)\one week CPD - 2,500 patients per year 1.5 patients per hour.

The numbers of ENPs in the above examples reflect the numbers needed to support minor injury cover. Nursing roles are diversifying rapidly and ENPs are managing an increasing minor illness caseload.

These figures are for WTE ENPs. A variety of roles, for example, as an ENP on one shift, the department co-ordinator on another, or in a variety of other clinical roles across the ED. This is good for the ED service and professional development of staff. It is vital that nurse staffing includes enough senior experienced nurses to fulfil the needs of ENP and other senior nursing roles.

As departments diversify the case mix of patients will change. Even now the case mix in a large urban centre with a nearby primary care centre, a minor injury unit and separate children's ED will be different to a unit with none of these alternative facilities.

The figures do not take into account any other activity such as specialist clinics, clinical decision unit work, ward work or other clinical activity. Baseline allowances are made for management, teaching and audit. No allowance is made for proper research. Staff time for these activities would need to be added.

SENSITIVITY ANALYSIS

The work rates of different staff will not be constant between departments. We estimate that an SHO working in a department with average case mix might see 3,000 new patients per annum. However we have evidence that in some departments this figure might be only 2,000 patients per annum or even lower. The following information looks at the effect of different work rates on our staffing figures.

This table shows the effect if the work rate in a particular ED is different from those estimated in this document.

	Change in work rate from 1.5 patients per hour	Hours per year	Change in patients seen per year	Change in wlu required per year		
				Small unit	Medium Unit	Large unit
SHO	0.1	2000	200	0.4	0.70	1.2
NP	0.1	1700	170	0.1	0.40	0.4
SpR	0.1	1250	125	0.2	0.20	0.3
Consultant	0.1	800	80	0.0	0.04	0.1

In this document we have estimated that an SHO will see 1.5 patients per hour. For every 0.1 patients per hour that this rate of seeing patients changes, we need ± 0.4 wlu in a Small Unit, ± 0.7 wlu in a Medium Unit and ± 1.2 wlu in a Large Unit. If the change in work rate is greater than 0.1 then the three right hand columns need to be increased proportionally (ie, Doubled for a change in work rate of 0.2 etc).

The table shows that if we are wrong about the Consultant work rate it will make very little difference to the overall model. If we are wrong about the NP or SpR work rate it will make only a moderate difference to the overall model. However if we are wrong about the SHO work rate it will make a large difference.

Worked example

If the SHO work rate in a Medium Unit was 0.5 patients per hour slower, equivalent to 2000 patients seen per year per SHO (rather than the 3000 assumed in this document), the number of SHOs required would increase by 3.5 (5 times 0.7), that is from 11 to 14.5.

6. NON-CONSULTANT CAREER GRADE DOCTORS

Current Position

At the time of writing (October 2004) there are approximately 900 Non-Consultant Career Grade (NCCG) doctors in EM within the UK. This number is growing rapidly year on year as Acute Trusts seek to improve the amount of senior cover available within EDs and as the pressure mounts to meet the challenges proposed in the DoH publication "Reforming Emergency Care".

The recent proliferation of Staff Grade posts and the lack of regulation in this area have resulted in huge differentials across the country in terms of working contracts, remuneration and opportunities for personal and career development.

The British Medical Association (BMA) and the DoH are currently undertaking a large scale review of the structure of the NCCG, this is currently in the consultation phase as a document entitled "Choice and Opportunity - Modernising Medical Careers for NCCG". A summary of the key recommendations is presented in this document.

(Note: NCCG Doctors are now termed "Staff and Associate Specialist (SAS) Doctors" by the BMA, but for clarity the term NCCG Doctor is used within this document as that is the currently preferred DoH terminology).

It is anticipated that the eventual outcome of this review will be the implementation of a single spine system consisting of a number of tiers, with upward movement between tiers being based upon competency based assessment (under the control of the newly formed Post Graduate Medical Education and Training Board (PMETB)). It is also envisaged that the new system will be linked more closely to formally recognised training posts (at SHO and SpR level) than the current NCCG system is.

NCCGs in EM have their own representative body, Forum for Associate Specialists and Staff Grades in EM (FASSGEM).

BAEM and FAEM suggest that the following minimum requirements be adopted as standard for doctors to be appointed to NCCG Grade posts:

For appointment to Associate Specialist a doctor must be 10 years post qualification and have spent at least four years in Registrar or Staff Grade posts (or equivalent). At least two years of this time must have been in EM.

For appointment to Staff Grade posts a doctor must have spent at least three years in SHO (or higher grade) posts (or equivalent); including adequate and appropriate experience of the speciality.

Note 1: Equivalent "Non UK" experience can be counted towards total experience, however a working knowledge of the functioning of the NHS in the United Kingdom is regarded as been a vital attribute for all potential Staff Grades and Associate Specialists in EM.

Note 2: Part time posts contribute on a pro-rata basis towards the total amount of experience gained by any individual.

Note 3: The BMA have recently issued advice on the regrading of those Staff Grade doctors who fulfil the criteria for appointment as Associate Specialists (this is detailed in this document).

Current BAEM/FAEM Policy on NCCG Issues

BAEM and FAEM recognise the status of FASSGEM in EM and support the development of a full regional structure of representatives within this group.

BAEM and FAEM recognise "Associate Specialists" and "Staff Grades" as being the current appropriate sub-divisions of the NCCG. Other posts (such as Trust Fellows, Trust Grades and Clinical Fellows) are not recognised as being appropriate descriptive terms as they lack definition and clarity of role and seniority, thereby opening up avenues of potential abuse of staff. Once the reorganisation of the NCCGs is completed it is anticipated (and hoped) that such problems will no longer exist.

All NCCG posts must be formally approved by the Regional Adviser in EM. Prior to any new posts being advertised, approval should be sought by the submission of both a job plan and a job description to the Regional Adviser (any recommended changes should be made to these before the post is advertised and an appointment made).

All appointments to NCCG posts should be made through a process of open advertisement and formal interview at an appointments committee.

All NCCG posts should have a job plan which should be reviewed on an annual basis by the post holder and the supervising Consultant.

All NCCGs should have an allocated educational supervisor (a Consultant), with a superimposed system of review by Regional Advisers (in case of grievances). The educational supervisor should appraise the NCCG doctor at least once per year using the standard structure as recommended by the National Health Service Executive.

All NCCG in EM should have a stipulated entitlement to study leave defined within their job plan. An allowance should be available to facilitate personal and professional development (any criteria governing access to this allowance should be openly stipulated within the job plan allowing for a transparency in eligibility for funding). A recommended annual study leave allowance is ten days per annum for a full-time employee.

NCCGs should be encouraged (and given time) to participate in - teaching; departmental management; mentorship of junior staff (SHOs); and teaching of life support skills (as part of a formalised Instructor's programme).

NCCG medical staff should have allocated personal space within their place of work, preferably in the form of an office.

BAEM and FAEM acknowledge the need for Staff Grade practitioners in EM to be valued as an important and integral part of the workforce of this developing specialty. In so doing the needs of the individuals within these posts to develop personally and professionally through the course of their working life are also acknowledged.

Recommendations for Job Plans

BAEM and FAEM recommend that Staff Grade doctors in EM should have ready access to advice and clinical guidance from a Consultant (from their team) at all times when they are on duty.

BAEM and FAEM recommend that no NCCG practitioner in EM should normally be working more than 40% of their total working time as antisocial hours work (antisocial hours being currently defined as outside of the standard 9.00-5.00 Monday-Friday working week, although with the introduction of a new contract this definition is liable to change). For personal reasons some individuals may choose to work a higher percentage of their contract as anti-social hours (but this must be personal choice rather than a basic condition of their contract).

BAEM and FAEM recommend that the average working week for NCCG practitioners in EM should not exceed 48 hours per week (on an average basis).

BAEM and FAEM recommend that when a residential on-call commitment is required that appropriate remuneration should be made either as time off in lieu or as appropriate extra payment.

Further Information is available in the following publications:

NHS Employment - The Associate Specialist Grade - February 2001 - BMA
NHS Employment - The Staff Grade - September 2002 - BMA

"Choice and Opportunity" - A synopsis

"Choice and Opportunity" makes thirteen key recommendations which are as follows:-

1. Entry to a career grade post should only be available to those who have met clear educational standards and can demonstrate speciality specific competencies.
2. The existing NCCGs should be integrated into a single, simplified structure with no more than two recognised levels of practice.
3. A system of limited accreditation of competencies is required; through which NCCG with formally recognised skills can work independently at the appropriate level.
4. The Royal Colleges in conjunction with the DoH and Post Graduate Medical Education Training Board (PMETB) will work to establish competency based assessment for trainees and linked competencies for the assessment of NCCG practitioners.

5. Local employers, Work force Development Confederations, strategic Health Authorities and Post-Graduate Deans should ensure that resources and infrastructures are available to support the continuing professional needs of NCCGs.
6. Post-Graduate Deans should support the education and development of NCCGs.
7. All NCCGs whether employed on local or on National Terms and Conditions of Service should be appraised annually and should have a personal development plan (PDP).
8. Workforce planners, both nationally and locally, should (in co-operation with Post-Graduate Deans) ensure that a meaningful number of training slots for senior entrants are available in specialist training programmes.
9. A new career structure for NCCGs should be seen as an integrated part of a new and modernised structure for medical careers.
10. The new structure should no longer be called the NCCG.
11. This new career structure will need new pay and terms and conditions of service which are appropriate for it.
12. Special, formal arrangements will be required to place existing NCCGs at fair and appropriate points in the new structure when it is developed.
13. Further scoping work is required to determine the size and make up of the current NCCG work force.

The content and the principles contained within "Choice and Opportunity" are a welcome development and it is to be hoped that they herald the beginning of a new era for all NCCG practitioners.

Regrading from Staff Grade to Associate Specialist - The current advice from the BMA

Benefits from regrading

Many Staff Grade doctors (and other NCCGs) are working at Associate Specialist level. This has been shown through various surveys. It is therefore most unfortunate that these doctors are not being properly rewarded or recognised for their work. This is both unfair and demoralising, and has a negative impact on Trusts as well as the individual doctors concerned.

The benefits to Trusts of regrading are numerous and far outweigh the modest cost involved. The benefits include:

- retention of experienced, highly skilled senior medical staff
- maintenance of a high quality service
- improved medical staff morale

- continued commitment from SAS doctors to the Trust and the service it provides
- improved quality of patient care
- recruitment of new doctors - a commitment to career progression for SAS doctors will attract new staff doctors to the Trusts
- that it is a relatively inexpensive way of achieving the above. On the current salary scales, the difference between a Staff Grade doctor with maximum optional points and the next nearest higher pay point on the Associate Specialist scale is about £4,000 per annum. For Staff Grade doctors on the maximum basic pay without optional points, the next nearest higher point on the Associate Specialist scale gives a pay increase of less than £2,000 per annum. Thus regrading to Associate Specialist is not expensive in terms of overall Trust budgets.

It is beneficial to employing authorities to reward and recognise the experience and expertise of high performing staff doctors. Regrading staff doctors to Associate Specialists is one such way.

The BMA's SASC has urged all Trusts and employing authorities to regrade to Associate Specialist all those Staff Grade doctors and others that are already performing at the level of Associate Specialist.

The BMA's SASC is currently calling for a new SAS grade with a single spine and contract, and we will soon be entering negotiations with the Health Departments on this. The aim is to allow easier career progression and eradicate the current regrading problems. However, this modification of the medical workforce could take a few years to implement fully.

[The current procedure for regrading](#)

Associate Specialist posts have been in existence since 1981 (being previously known as medical assistant posts). They are now normally personal appointments established for those doctors committed to a career in the hospital service who are unable to complete higher professional training for whatever reason or who, having completed it, are unable or do not wish to take up a Consultant appointment.

The minimum entry criteria to the Associate Specialist grade are:

1. 10 years medical work (either a continuous period or in aggregate) since obtaining a primary medical qualification which is (or would at the time have been) acceptable by the GMC for full, limited or temporary (but not provisional) registration; and
2. a minimum of 4 years in the staff, registrar, SpR or equivalent* grade, at least 2 of which should be in the relevant specialty.

*Equivalent service is acceptable with the agreement of the appropriate college or faculty regional adviser and of the postgraduate dean.

In addition to satisfying the minimum criteria for entry to the grade, applications are usually judged on a range of other criteria such as experience, clinical expertise, quality of patient care, multi-disciplinary team working and audit work. These criteria can be assessed through the applicant's CV, from referees and, if one is held, at interview.

The regrading procedure is now standardised in Scotland, Wales and Northern Ireland, although there are differences between each country. In England however there are significant differences between Trusts. The BMA's SASC has advised all Trusts in England to adopt a model procedure for regrading to Associate Specialist.

7. SPECIALIST REGISTRARS

Registrar training

For adequate training of SpRs a balance between service commitment and education must be met. It is recognised that training needs change during the current 5 years spent as an SpR and will do so in the senior years of "run through" training. It is also recognised that service commitment provides many of the training opportunities necessary to gain competency in the specialty.

However, it is important to provide clarity regarding educational and training opportunities that different A&E based duties provide. The following is an approximate breakdown of the make-up of clinical shifts.

Unsupervised clinical practice - 1/2 of working hours

This time should be spent seeing new patients and providing teaching and supervision for junior staff. Half of all clinical time may be without a Consultant being available within the ED.

(Potentially) supervised practice - 30% to 50% of working hours

This time should be spent on the shop floor when there is direct departmental access to a Consultant for ongoing education and supervision. The JCHTA&E currently advises that a Consultant should normally be available within the ED for around 30% to 50% of SpRs' shift time in the department. "The Consultant's Apprentice" - this time should also include any Consultant shop floor or management duties such as ward rounds and clinics so that there is opportunity for one-on-one teaching. Time should also be set aside for management training, maybe attending meetings with a Consultant, if not available during non-clinical duty time.

Non-clinical duties

This time should be spent developing management skills and carrying out administrative tasks. This period should include time when there is departmental access to a Consultant as above. It is important to recognise that certain administrative tasks have limited educational benefit; innovative IT solutions and alternative staff should be used wherever possible to minimise these repetitive practices.

Research/Audit

All trainees should have an office within the ED with computer and internet access for reading and research purposes. Trainees should be made clear as to what achievements and activities are expected of them during this period and should be supported by trainers in the ED or region. Trainees may have up to 4 hours allocated for

research/audit. This is no longer strongly recommended with the reduction in working hours. Where trainers/STCs support this allocation, a trainee should know what outcomes are expected and these should be monitored.

Out of department experience

Under current training regulations, one secondment of 3 months should currently be available to the trainee during each year of training until all mandatory secondments are covered.

It should not be a requirement that secondments can only be taken if a specified duration of service within a trust has been accomplished. However, if the employing trust can offer a suitable secondment in the required specialty then the trainee should remain within the trust during their secondment.

In the unlikely circumstance that the employing trust cannot provide adequate educational support during a secondment or the employing trust cannot offer a secondment in the chosen specialty, the trainee should discuss this with their trainer prior to accepting a secondment away from their employing trust.

The trainee should be encouraged to experience out of hours practice in the chosen specialty during their secondment. It is reasonable to provide evidence of this experience, as it will be at the expense of out of hour ED service. If not on-call for the secondment specialty the trainee will be on-call for the emergency service.

Trainees should keep in contact with their trainer throughout their secondment and should, whenever possible, continue to attend formal teaching within their region and ED.

Essential secondments

The majority of newly appointed trainees spend extra time at Senior House Officer (SHO) level in specialties that form essential secondments. In general some further essential secondments are required to complete higher training. These secondments should be taken in the early years of higher training.

Non-essential secondments

Many trainees have specialist areas of interest within EM. Trainees should be encouraged to define themselves in this way and be supported in taking secondments that would aid these interests. Non-essential secondments will be delayed until all essential secondments have been completed. These "extra" secondments are at the discretion of the trainers and Deanery STC and, unless mainstream (eg, additional training in anaesthetics), should be approved prospectively by the JCHTA&E to ensure they may "count" towards training.

Out of programme experience - The OOPE

This is probably best considered as an extended non-essential secondment. OOPE may, for example, be up to 12 months training in an ED recognised by the Australasian College for Emergency Medicine. The trainee funds it, usually by employment at an appropriate level within a different department. The OOPE needs to be approved by the local Specialist Training Committee as an appropriate training opportunity and then prospectively approved by the JCHTA&E. A record of satisfactory completion of the training must be submitted on the completion of the OOPE. It should not delay the expected CCST date of the trainee, unless the trainee has already been accepted into a scheme for dual accreditation.

Middle-grade cover

All EDs should have on-site cover by doctors more experienced than SHOs for as much of the week as possible.

This role can be filled by SpRs, staff grades, associate specialists or Consultants. In general, medium-sized departments should aim to have at least sixteen hours a day of middle-grade (SpR or staff grade) on-site cover. If working a 40-hour week, this requires at least six middle-grade doctors. Large departments should aim to have 24-hour on-site middle-grade cover, which would require eight middle grade doctors.

8. MODERNISING MEDICAL CAREERS

At the time of writing there is still a degree of uncertainty about the detail that will be contained within final recommendations on Modernising Medical Careers.

What seems likely is that after graduation, doctors will undertake an integrated planned two-year foundation programme of general training.

Of this the first year will largely equate to the current PRHO year and the second year will be a generic first year of SHO training. Statutory responsibility for the first year will lie with the GMC and for the second year with PMETB. An intercollegiate working party on which Faculty is represented is devising the curriculum for foundation programmes. An emphasis of the second foundation year will be on developing competencies in the early assessment and management of the acutely ill.

BAEM and FAEM strongly believe that EM suits itself better to the second year of foundation training than the first and we firmly believe that given the emphasis on dealing with the acutely ill EM should comprise six months of the second foundation year. Models for foundation programmes including six months in EM are already developed in Sheffield and in London.

If we are successful in embedding ourselves as a key player in the foundation programme then pressure may increase for us to take all UK graduates through EM. This would represent a significant burden of education and assessment for our middle grade and senior tiers.

After the foundation programme, it is likely that trainees will enter run-through specialist or general practice training programmes. The duration of these programmes will vary with general practice being for three years, office urology for five years but with many other specialities having six-year programmes.

FAEM has support in principle from relevant other bodies to develop a specialist training package of six years duration but which could have the first two years in common with acute medicine and intensive care medicine. It is suggested that a trainee entering any of these specialities could undertake six months of EM, six months of Acute Medicine, six months of Anaesthesia and six months of Intensive Care.

Trainees could thereafter choose to pursue further training in any of the specialities listed above. As well as allowing trainees more time before deciding on their career, such a programme would allow us to produce a group of trainees with a useful range of competencies for any acute care setting.

Some such programmes already exist. In the Edinburgh programme the third year of training, for those pursuing an EM career, comprises six months of trauma/orthopaedics and six months of Accident and Emergency.

The final three years of the six year package would include a minimum of 30 months being spent in the ED. Work is underway to review and develop a competency based curriculum to underpin such a programme.

The plans for modernising medical careers continue to evolve but it seems likely that foundation programmes will come into being in 2005 and speciality by speciality review of subsequent training programmes will be completed by 2007.

9. NURSING ISSUES

Introduction

In recent years there have been significant changes in service delivery and considerable advances in clinical care. The changing pattern of service provision and role demarcation requires different thinking about future staffing configurations. The emphasis of emergency care provision is shifting from a departmental to a system wide perspective with an increasing emphasis on cross-boundary and specialty working. This will have a profound effect on the delivery of the nursing and allied health professional contribution to EM.

The last decade has seen an increase in nurses assuming greater autonomy in their role, particularly in the diagnosis and management of minor injuries and illness. The evidence supports this role development in terms of safety and effectiveness. Nurses and other allied health care professionals are expanding practice to include more complex cases. However, some of these developments have been reactive to a crisis in medical staffing, rather than pro-active service redesign.

Looking to the future, there needs to be greater emphasis on focused service redesign to meet local health economy needs. This should be based on existing best evidence and the consideration of who is competent to deliver care rather than which professional has traditionally undertaken a specific role. Emergency care developed in this way necessitates 24-hour senior clinical leadership, and senior led service delivery. To enable this to develop, the emergency care system of the future needs to move from a medical Consultant led service to a service led by those with appropriate expertise in their field of emergency care, this should include nurses and allied health professionals.

Emergency Nursing

Emergency nursing has changed considerably over the last decade with many skills, previously seen as an extension or expansion of role, becoming part of routine practice. Service reconfigurations, NHS Walk-in-Centres, NHS Direct and the development of Emergency Care Practitioners (ECPs) have increased the opportunity for rotational or joint appointments between service providers. It is both likely and desirable that this configuration or systematisation of emergency care will continue with more nurses working across organisational boundaries. This will lead to a greater interchange of knowledge and skill with other professional groups and a fundamentally different professional mix of staff in the ED.

Competency and career framework

Fundamental to career progression and role development is the assessment of competence. For emergency nursing this has been addressed through the development of a Faculty. The Faculty of Emergency Nursing (FEN) aims to advance knowledge and skills in practice, lead the specialty, develop and maintain fitness for practice and provide a clear career structure for emergency nurses.

The framework designed to achieve these aims is a collection of core and specific competencies that target all aspects of emergency nursing practice. The skills, knowledge and attitudes required to progress along the career pathway are clearly defined and professional accreditation awarded via a portfolio of evidence. Membership is defined at four levels; Affiliate, Associate, Member and Fellow and clearly mapped against the competencies required for developing expertise. As the FEN becomes established these levels will provide the benchmark for career progression through the speciality.

Senior Clinical Decision Makers

The traditional development of autonomous nursing practice has focussed on patients perceived to have minor injuries or illnesses. Roles are rapidly emerging across other parts of emergency care, involving complex case management and intervention; it is becoming increasingly apparent that competent senior clinical decision makers, from multidisciplinary backgrounds, with the autonomy to use their expertise, will play a key role in the future of emergency care.

The provision of minor injury/illness care will increasingly be nurse led, but it is likely that many more of these autonomous roles will be rotational in nature and encompass other professional groups such as Paramedics, Physiotherapists and other professions allied to medicine.

Nurses are also developing increasingly autonomous roles with other groups of patients including those who have traditionally been seen on the "Majors" side of the department and those who are managed for longer periods of time in CDUs. Nurses functioning as senior clinical decision-makers are established in these areas in a few centres around the UK. Given the changing nature of emergency care and staffing, it is likely that this will be common place in the next decade.

This role development is a natural evolution of practice but will require a different pattern of working for both medicine and nursing. It is predicated on the need to move patients through their trajectory of care, realisation of the nursing contribution to assessment and diagnosis and the decreased direct clinical interface of junior medical staff.

Nursing also needs to re evaluate "traditional" roles, in the future nurses will be responsible for the assessment of fundamental nursing care needs, but will have a shared role of provision and supervision, supported by health care assistants.

Support Staff

The increasing demands for, and complexity of, emergency care provision has led to an increase in the need for support staff. Given the current trends, the numbers and range of both clinical and general support roles of this staff group will increase. A competency framework linked to the National Vocational Qualification (NVQ) framework should guide the role development and expansion of practice. It is desirable to see a greater number of support staff functioning at NVQ level 2 and 3. It is essential that support workers remain under the guidance and supervision of appropriately qualified professionals.

The numbers and roles of other non-clinically focused support staff should be considered. Such roles as stores and supplies management, portering and housekeeping functions should be considered in the overall staffing levels and skill mix.

Staffing numbers and skill mix

While there are no current nationally agreed skill mix formulas for calculating staffing numbers and skill mix for nursing staff, some guiding principles can be applied. Previous guidance has suggested that numbers of staff are calculated on the basis of clinical areas; however, while department layout has an impact on the number of staff needed, geography alone provides too crude a measure. Patient dependency should be a factor in calculating the number and level of staff required. Patient dependency can be measured using a validated tool, such as the Jones Dependency Tool, or through a proxy measure such as Triage Category using the national scale.

Streaming

One of the principles of "Reforming Emergency Care" (2001) has been the introduction of streaming. Models are emerging using trained support workers or reception staff for this role, others use senior experienced clinicians. What is imperative is that patients are rapidly directed to the right clinical area where a more complex assessment can be undertaken. For some this may be the complete care episode ("see and treat" approaches), and for others the beginning of a more complex journey. It is important that effective streaming forms part of care package, and does not simply create an additional stage in the patients care.

a. Resuscitation

The traditional model of moving staff into the resuscitation room when needed paralyses other areas of the department, preventing adequate flow-through of patients in those areas. Resuscitation areas need to be staffed by nurses with advanced clinical skills, and experience of the resuscitation environment; it is therefore vital that staff are allocated to this area as a discrete stream. They can be deployed elsewhere in the ED if not needed in the resuscitation room.

Inevitably, the initial stages of patient resuscitation are resource intense. It would not be feasible or economically viable to have this number of staff dedicated for each shift. However, using historical data, the average occupancy of the resuscitation room, on a shift-by-shift basis, can be calculated. Using the average occupancy a ratio of one nurse to each patient in this area per shift, should give a number to provide baseline nurse staffing for this area. As a minimum 2 nurses should be allocated to this area per shift. Senior nursing leadership should be provided in this area each shift.

b. Paediatrics

It is recommended that separate facilities (waiting and treatment areas) be provided for paediatric patients in the ED. These facilities should be open at times to match paediatric demand. Each department should have a child trained lead nurse for paediatrics. Although desirable, it is unrealistic to expect all paediatric care to be delivered by experienced children-trained emergency nurses.

Education and training should be provided for general trained emergency nurses to care for children in the ED. Departments should ensure that when child trained staff are not available there is access to advice and support on complex paediatric issues. The Faculty of Emergency Nursing competencies for the care of the child and family provide a benchmark for the knowledge and skill required to care for this group of patients in the emergency care setting.

c. "Majors"

Increasingly nurses are developing a more autonomous role in this area of the department. Nurses are playing a key role in the rapid assessment and referral of patients. Over the next decade we are likely to see a significant change in the nurses' role in the management of patients on the majors side of the department.

Traditional nurse staffing numbers will depend on acuity and the patient dependency in this area. Historical data indicating trend analysis will be useful. Given that most patients being cared for in this area will have undifferentiated and undiagnosed problems it is suggested that the established high dependency Ratio of one nurse to two patients be adopted as a base line staffing pattern for "majors". As the local emergency care system develops it is likely that other qualified practitioners such as practitioners in emergency care could undertake some of the traditional nursing role. HCAs should also be available in the majors areas to support qualified professionals in the delivery of care.

d. "Minors" or Ambulatory care

It is likely that in most departments over the next 5 years that this area will become nurse led and run. Senior medical input will still be required however. Attention will need to be given to supervised training and practice of junior medical staff in the management of minor injuries and illness. Nurses will, in the most part, deliver the necessary supervision and training. Linking with the emergency care system, rotational or joint posts, with other providers of care to this group of patients should be encouraged.

Determining the number of practitioners required to staff this area should be based on attendance data, the average consultation length and trends of demand activity, and range of services offered by Nurse Practitioners. For these areas to work most effectively some junior nurses or HCAs should work alongside Nurse Practitioners to support delivery of care.

Senior clinical leadership and management

Senior clinical leadership and management can be effectively delivered by a number of roles. In most departments a combination of roles will occur.

Senior Nurse

Each department should have a designated nurse manager who takes responsibility for operational management of the nursing budget and staff. The nurse manager has a fundamental role in day to day management as well as implementing change.

Modern Matron

Matrons were re-introduced as part of the NHS Plan. They have a role in clinical leadership being highly visible and accessible to patients. Their role is to drive up standards of care, to improve the patient's experience and to enable nurses to expand their role and remit of practice to facilitate this. The modern matron role has recently been extended to EDs. Each department should have a designated modern matron. How the role is operationalised in departments will differ, in many departments however, this role has been combined with the role of senior nurse.

Consultant Nurse/Practitioner

The role of the Consultant Nurse involves expert clinical practice, clinical leadership, strategic service development, education and research. There are now in excess of 35 Consultant Nurses in emergency care in England. Many Consultant Nurses have been at the vanguard of changing nursing practice and roles to meet the changing nature of the specialty. The Consultant Nurse role is fundamental in providing senior clinical leadership and expertise. The role has been developed to enable skilled clinical nurses to remain in clinical practice. A recent pilot training and educational programme has been developed to equip nurses for these roles for the future. The Faculty of Emergency Nursing competency framework provides a benchmark of clinical expertise. As the FEN becomes established it is highly desirable that Fellowship of the Faculty will be a pre-requisite to appointment to a Consultant Nurse post in emergency care.

As new models of care develop, each department should have at least one Consultant Nurse. It is likely that over time departments will have multiple Consultant Nurse appointments as we move to a more senior led service delivery model. Other allied health care professionals are developing similar roles, for the emergency care system this will mean the development of Consultant practitioners from different professional backgrounds for example, medicine, nursing, radiographers, paramedics and physiotherapists. This will enable multidisciplinary Consultant practitioner led service delivery in emergency care.

Staffing configurations for the future - overall recommendations

The changing focus of nursing work towards more autonomous roles necessitates a more experienced senior nursing workforce. In order to achieve this greater investment in nurse education is necessary together with demonstration of clinical competence linked to a career framework. Greater cross professional training and interchangeable roles are likely to emerge over the next 5 years, therefore junior nurses must have the opportunity to work in a supported capacity in all parts of the emergency care system.

Recommendations of staffing mix % figures for senior staff, junior staff and support workers

The overall skill mix for an ED will vary in numbers depending on size, case mix, and the range of services offered, but the experience spilt of the workforce remains relatively consistent. Agenda for Change is altering how nursing expertise is classified, but the principal skill levels are the same.

It is recommended that a workforce split of 80% registered professionals: 20% NVO trained support worker is appropriate. The proportion of support workers will decrease if they are not working through NVO levels as the range of skills they can contribute is less. Of the remaining 80% total workforce, the registered workforce (in addition to the senior staff described above) should be split as follows:

15%	G grade	Agenda for Change (AFC) Band 7 (nurses able to manage shift, undertake autonomous practice, have advanced clinical skills)
25%	F grade	AFC Band 6 (nurses able to manage a shift, some autonomous skills, and a range of advanced clinical skills)
25%	E grade	AFC Band 5 (nurses competent in a range of A&E skills)
15%	D grade	AFC Band 5 (basic nursing skills, learning emergency care, need some clinical support)

10. QUALITY AND STANDARDS IN EMERGENCY DEPARTMENTS

EM continues to evolve and raise standards in response to initiatives from within the speciality, technological advances, rising patient expectation and government policy. The key drivers currently are the NHS Plan, the ESC and the Modernisation Agency.

The 4-hour target to admission, discharge or transfer has focused attention on the timeliness and efficiency of care. Major changes are being put in place which will improve the efficiency of the whole healthcare system.

CHAI is the agency which is focusing on the quality issues and BAEM will be seeking to work alongside them in our mutual desire to improve the quality of care delivered to patients as well as the quality of life for those who work in EDs.

The Clinical Effectiveness Committee of the BAEM is taking forward the quality issues by producing evidence based guidelines and reviewing guidelines produced by other organisations. These guidelines are published on the Electronic Library for Health and BAEM websites. Best practice is being disseminated throughout the country. National standards are derived from these guidelines and audit tools are then produced which enable all departments to audit their practice against these standards. All EDs should have an active audit programme and the audit tools produced can fit into their usual audit activity enabling staff to introduce change as required.

High quality care can only be delivered by high quality staff, which is why we have a clear and demonstrable commitment to the teaching, training, and appraisal as well as continuing professional development for all staff. Departments providing training for SHOs and SpRs continue to have regular inspections from the Hospital Recognition Committee of The Royal College of Surgeons, the General Professional Training Subcommittee of the Royal College of Physicians, regional deans and the JCHT. There are moves to rationalise the number of visits and make them more effective.

EDs are central to the NHS as they are the main providers of care to those who become acutely ill or are injured. We are committed to providing high quality care in a modern and dependable NHS.

11. TEACHING AND RESEARCH

Most Emergency Physicians are already involved in teaching. However the amount of time spent in undergraduate and postgraduate teaching will increase with the advent of Modernising Medical Careers and the increased emphasis that the GMC is placing on Emergency Care skills in the undergraduate curriculum. Medical schools each have a development programme for all staff involved in undergraduate teaching to improve their teaching skills. Clinicians in EM should engage with this system, details of which are available through local university websites.

The move to a competency based programme for SpR training will also require the trainers to acquire a new set of skills. The core EM curriculum will be defined and will run through all levels of education from undergraduate to foundation to SpR. There will be defined and escalating levels of competency at each level.

Research will be increasingly important. There is a usual pattern to the development of a speciality. Clinical need drives the formation the new speciality, but as it matures a secure academic basis needs to be created for further development. There is an increasing amount of both primary and secondary research being undertaken within EM and an increasing success in grant applications. However, in order to create the next stage of development there need to be an increase in the number of substantive academic appointments within EM. As training is re-organised defined pathways for academic training need to be developed.

FAEM has a Research Committee and a nationwide network of Faculty Research Advisers who encourage research within their area and supervise local training programmes in critical appraisal skills and research methods.

The BAEM and FAEM have a combined application process for small research grants (up to £5,000). Application details can be found on the website. Specific research grants are also administered (Anthony Hopkins Memorial Fund and the Boehringer Research Grant). BAEM administers the Maurice Ellis prize for its members.

12. RELATIONSHIP BETWEEN EMERGENCY MEDICINE AND PRIMARY CARE

The axis between the ED and Primary Care is fundamental.

The principal areas in which the relationship can be developed would include:

- The recognition that there is a shared interest and ability to deal with a number of patients attending EDs who could equally well be managed in a general practice facility.

Attendance of these patients in EDs may be driven by the patient's perception of the urgency of their condition and their requirement for access to a healthcare professional.

Whilst it is recognised that there have been significant improvements in the accessibility to GPs, there remains the potential for further improvement in this area, for example the availability of emergency same day appointments.

- There is considerable variation nationally in the percentage of patients attending EDs who are appropriate for management by GPs working within the department. In both specialties, there are areas of shared capability and expertise but other areas in which this does not exist. It is as unreasonable to expect a GP undertaking one session a week in an ED to be dealing with the most complex emergency problems as it would be to expect an EM specialist to function at a similar level within general practice.

The service provided by an ED is considerably influenced by the way in which local GPs work. By planning developments in consultation with EM specialists, local GPs have a real opportunity to improve the quality of provision for emergencies.

- In some areas, there will be the opportunity for general practice co-operatives or a walk-in centre to be co-located next to the ED. This would offer many advantages and could be arranged around a central triage point which would allow patients to be directed appropriately. GPs would then have access to the diagnostic facilities available within the hospital. The use of such investigative facilities by GPs is less frequent and more rational than that used by junior hospital doctors. Similarly, an emergency opinion would be available where required.

In general, the BAEM and FAEM welcome the opportunity to develop the role of primary care walk-in centres, either sited within hospitals or in the community. This allows patients rapid access to a Primary Care clinician after which referral to an ED could be arranged if necessary.

The use of telephone triage and advice lines should be encouraged in order to improve the speed of access to the correct facility.

13.

PAEDIATRIC ISSUES FOR EMERGENCY MEDICINE

Over 2 million children attend EDs annually. This tends to be a seasonal workload, with a predominantly traumatic workload in the summer months and a more medical workload in the winter months. Despite this there is a predominance of trauma attendances, with trauma making up approximately 70% of the workload in the Paediatric population. In areas where GP provision is poor, this percentage may be lowered but trauma still accounts for the majority of patients.

Definition of a child and age group issue

Definitions within the Paediatric age group vary. They are referred to as neonates, infants, toddlers, pre-schoolers, school-age and adolescents. In England and Wales, children are treated as such up to the age of 16. In Scotland there are 3 main children's hospitals only seeing children up to approximately their 13th birthday.

The definition of children is crucial because different pathologies present in different age groups and will need different arrangements in different localities. Those areas with specialist Paediatric hospitals are able to provide dedicated Paediatric services, but this becomes very difficult in District General Hospital settings. All too often the needs of children are subsumed.

The issues that need to be considered therefore under age-group headings include:

- a. Facilities for neonates and infants - baby-changing facilities, nursing mothers, recognition of a specific disease in these children.
- b. Toddlers (approximately ages 1-3) - injury is common in this age group; infectious disease is still a problem, but diseases such as meningitis become less frequent.

Children in the under 3 age group are particularly vulnerable to child abuse and therefore Child Protection issues for this age group need to be particularly robust.

- c. Pre-school age (3-5) - injury again is common particularly in the home environment. Illness becomes less of a problem; they become easier to examine but still can be problematical to those unfamiliar with them.

Issues common to all these age groups include:

- (i) difficulty in recognition of the sick child
 - (ii) difficulties with procedures eg airway care, IV access
- d. School-age (approximately 5-adolescence) - during this age transition for resuscitation guidelines occurs. Over the age of 8, adult equipment and guidelines may be used (see Resuscitation Council Guidelines).

Adolescent disease patterns change completely. Issues such as teenage pregnancy, sexual assault and high impact trauma all become presentations that are not necessarily within the realm of those used to dealing with younger children.

Organisational Issues

Overall there are some common trends towards provision for children. Firstly there seems to be a move to defer to Paediatricians for the care of children. While there is no

doubt that Paediatricians are excellent with dealing with illness in children, this will account for at most 30% of the workload, much of which can be managed to a high standard in the ED. The vast majority of children have surgical, orthopaedic and particularly trauma conditions. This should rightly be the realm of the ED. EDs and Emergency Training schemes must have robust schemes for ensuring that emergency doctors are competent with all of these conditions as they will be the mainstay of their Paediatric workload.

Secondly, the development, training and recruitment of Consultants in EM with special interest in Paediatrics is a priority. These doctors should take the lead for Paediatric provision within an emergency setting and also ensure that there is close liaison with:

- a. Paediatricians working in the Community with relation to Child Protection issues
- b. Paediatricians working in the hospital environment with regard to admission, short-stay, etc of medical problems
- c. Anaesthetic/ITU colleagues with regard to the intensive care and resuscitation of critically ill and injured children.

Thirdly, there has been considerable concern expressed about the provision of anaesthetic services for children under the age of five. This may lead to procedures being carried out under sedation in less than ideal facilities. While there is no real objection to trained emergency personnel carrying out procedures under sedation in the emergency setting, these procedures are not without risk and full and adequate facilities must be in place to enable this to be carried out safely and securely. This will invariably involve senior doctors with adequate training and expertise backed up by trained nursing staff in areas with appropriate paediatric equipment. Recovery is probably as important as induction and maintenance of sedation and this must not be neglected. Doing this in a busy emergency setting can be problematical, but should not preclude safety.

Finally, in relation to the sedation issue, there is a need to consider adequate analgesia provision. A recent survey from our own department indicates major problems with analgesia policies for children despite existing guidelines. The intra-nasal route would appear to be a suitable route for opiate analgesia (diamorphine), but only 30% of children received prompt and adequate analgesia. Juniors still seem to be confused regarding optimum drugs, doses and routes.

Social Issues

Disease and injury prevention are significant roles for all health care professionals. EDs should be able to work with Public Health and other Community organisations to ensure that disease prevention is organised in a well co-ordinated way. ED computer systems are ideal for providing information. They can identify disease trends very readily and greater use of this should be promulgated on a national basis. There are issues with regard to Primary Care work being done within an ED, but one important area is immunisation. A number of colleagues are reluctant to engage on immunisation within the department, but it is essential that opportunistic immunisation takes place whenever possible.

Along these lines there must be robust provision for Child Protection. This is one area where the Liaison Paediatrician is of particular value and ensuring that there is ready access to Community follow-up.

Educational opportunities with regard to management of disease such as diabetes, asthma and epilepsy (all of whom may present in extremis) can be developed from an ED, again in collaboration with Liaison Paediatricians and appropriately trained nurses.

Nursing Issues

The needs of Paediatric ENPs needs to be particularly stressed. The roles detailed above could very readily be subsumed within the realms of adequate Nurse Practitioners. Much of the work in Paediatric EM would be ideally suited to Nurse Practitioner working. They do however need to be trained adequately and supervised effectively.

Some areas have developed Physiotherapists who can help in this role as well. Again sporting injuries might be the realm of the Physiotherapist where as other injuries might be the role of the Nurse Practitioner. These issues must not be neglected, but whatever happens, EDs must take the lead role, rather than give responsibility to people who do not understand emergency care as well as we do.

14. PRE-HOSPITAL CARE

(I) THE FACULTY OF PRE-HOSPITAL CARE

The Faculty of Pre-Hospital Care is keen to encourage links between EDs and work in the pre-hospital environment.

Many ED doctors already hold the Diploma in Immediate Medical Care and a number also a Fellowship in Immediate Care.

Details of the Faculty of Pre-Hospital Care and the Diploma examination are available at www.rcsed.ac.uk.

(II) THE AMBULANCE SERVICE

A successful and co-operative working relationship with the local ambulance trust is essential to ensure that optimal standards of care are agreed and practised throughout the continuum of care from the scene into the ED.

It is recommended that ambulance crews at the scene and whilst in transit have direct communications with senior ED doctors, experienced in pre-hospital care and with a good knowledge of local paramedic protocols. There should be agreed guidelines indicating which cases should be discussed in this manner, but the principle should be that where there is any delay or difficulty, then medical advice should be available.

Similar guidelines should be prepared to ensure that EDs are warned of patients en route to the department for whom advance preparation is required, for example the seriously ill and injured, sick children, etc.

A standard proforma for collecting and conveying patients' details should be used. This will include details of the presentation, vital signs, treatment already initiated and an estimated arrival time in the ED.

It is recommended that regular meetings be held between the ED and local ambulance crews and managers to review activity. A formal audit procedure should be in place to monitor the standards of care.

ED staff should have an active role in the training of ambulance service personnel.

(III) BRITISH ASSOCIATION FOR IMMEDIATE CARE (BASICS)

BAEM and FAEM appreciates greatly the invaluable contribution of BASICS members to the management of the seriously ill and injured in the pre-hospital environment. Indeed, many EM doctors are involved in BASICS work.

BAEM and FAEM would wish to continue to support this work wherever possible, in particular with regard to training, advice and audit.

15. ACCIDENT PREVENTION

EDs should establish close working relationships with local agencies involved in accident prevention, in particular the police, fire and rescue service and accident prevention agencies with interests in children and the elderly.

Comprehensive data collection is an essential research tool for accident prevention and injury management research. In addition to the epidemiological data, ED staff should assist in identifying and implementing strategies which will prevent illness and injury amongst the local community. Such work may, for example, include school visits.

16. SECRETARIAL SUPPORT

It is essential that EDs have adequate and dedicated secretarial support to ensure that correspondence in and out of the department is processed without delay.

The exact level of support required will depend on a number of factors including the total number of patient attendances and numbers of Consultant medical staff, but there should usually be one full-time secretary for every two Consultants.

17. MANAGEMENT SUPPORT

The provision of adequate and dedicated management support is essential to allow departments to function optimally on a day-to-day basis and to recognise and respond to the wide-ranging developments occurring within the specialty, for example, the relationship with other hospital specialties and primary care. Such support will optimise the liaison with the management structure within the hospital.

The ED must be represented at the appropriate Trust management meetings and have access to the Trust board.

The management team should include a service or business manager, accountancy expertise and information support.

BAEM and FAEM recommend the establishment of an Emergency Care Directorate within the acute trust to ensure that all aspects of emergency care receive a high profile in the trust agenda.

EUROPEAN WORKING TIME DIRECTIVE

The European Working Time Directive is designed to protect the health and safety of workers by restricting the number of hours an individual can work and imposing minimum rest requirements for all workers. The EWTD dictates how many hours can be worked and how much rest should be taken. Unlike the "New Deal" agreement for junior doctors, EWTD is enshrined in both European and UK law and is therefore not optional. The EWTD states that people should not work more than 48 hours a week and that the following rest requirements should be met:

- a minimum of 11 hours continuous rest in every 24 hour period
- a minimum rest break of 20 minutes after every 6 hours worked
- a minimum period of 24 hours continuous rest in each 7 day period (or 48 hours in a 14 day period)
- a minimum of 4 weeks paid annual leave
- a maximum of 8 hours work in each 24 hours for night workers

It is possible to opt-out of the requirement to receive the full 11 hours rest each day (derogation) but this rest must be made up later as compensatory rest. The EWTD became part of British law and applicable to the majority of workers on 1 October 1998. Consultants and other career grade hospital doctors were included in this initial legislation but junior doctors were excluded. A timetable for doctors in training, to be included within the Working Time Directive (amending directive (2000)) was agreed in May 2000 between the European parliament and the Council of Ministers (see table 2).

The EWTD for junior doctors will be implemented gradually from August 2004 to August 2009. This means that the limitation to "48 hours work per week" will not be introduced until August 2009. However, in the meantime a 58 hour week, with significant changes in rest requirements, will come into force from August 2004. From August 2007 the working week will be further limited to 56 per week until the full implementation of the directive in August 2009.

August 2004	Interim 58 hour maximum working week. Rest and Break requirements also become legally enforceable from this date.
August 2007	Interim 56 hour maximum working week.
August 2009	Deadline for 48 hour maximum working week. This may exceptionally be extended by another 3 years at an interim of 52 hours, with 48 hours then coming in 2012.

Recent European Court of Justice ruling:

"time spent on-call by doctors must be regarded in its entirety as working timeif they are present at the health centre (hospital)". Possible solutions currently being tested can be found at <http://www.doh.gov.uk/workingtime/>.