

Emergency Medicine Services in Ireland

Standards Document

Irish Accident & Emergency Association

March 2001

Contents

Preface		Page 3
Introduction		Page 3
Section 1	Role of the Emergency Department	Page 4
Section 2	Categorisation of Emergency Departments	Page 7
Section 3	Bed Requirements	Page 8
Section 4	Processes and Service Indicators	Page 9
Section 5	Emergency Department Personnel	Page 11
Section 6	Supporting Departments and Services	Page 16
Section 7	Design Features of an Emergency Department	Page 17
Section 8	Emergency Department Facilities and Equipment	Page 21
Appendix 1	Supporting Specialties for an Emergency Department	Page 26
Appendix 2	Space Considerations for Emergency Departments	Page 28

PREFACE

This document has been developed by the IAEA.

It is based on the original document
– ***Standards for Accident & Emergency Departments in Ireland*** –
which was prepared by the Standards Sub-committee of the I.A.E.A.,
approved by the Association in 1997 and further updated in 1999.

The Association wishes to thank Ms. Suzanne Johnson (Sligo General Hospital) for her assistance in the typing of this document.

INTRODUCTION

The Irish Accident and Emergency Association (I.A.E.A.) was established in 1991. Membership consists of Consultants in Emergency Medicine working in the Republic of Ireland.

Among its objectives is the establishment of standards for the provision of Emergency Medicine Services that should pertain throughout the Republic of Ireland.

In December 2000, the name of the specialty was changed from "Accident & Emergency" to "Emergency Medicine" by the Medical Council.

This document represents the Association's position on the role of the Emergency Department (ED) in the provision of Emergency Medical Services. Staffing of EDs and aspects of design of such departments are addressed.

1 **ROLE OF THE EMERGENCY DEPARTMENT**

1.1

The Emergency Medical Services (EMS)

Every person with acute serious illness or injury should have rapid access to the Emergency Medical Services (EMS). The EMS consists of the ambulance service and access to it, pre-hospital care systems, hospital Emergency Departments, intensive care facilities and definitive care services. The specialty of Emergency Medicine and the Emergency Department (ED) form the core of the EMS. This pivotal role must be recognised in developing the EMS.

1.2

Primary Function of the Emergency Department

An ED should provide optimal facilities for the initial reception and treatment of patients with acute serious injuries and sudden unexpected critical illness so that the best possible patient outcome may be achieved.

The treatment of minor injuries and illness is an important secondary function of the ED.

The use of Emergency Departments as admission units for all General Practice referrals to hospital is inappropriate. Alternatives must be developed if EDs are to be able to fulfil their primary function effectively.

1.3

Training in the Emergency Department

Emergency Departments should contribute to the professional development of doctors, nursing staff and others by providing formal training, as well as opportunities of gaining experience under the supervision of experienced staff.

1.4

Research and Health Promotion

Emergency Medicine should contribute to the improvement of the management of injury and sudden illness by information collection and research. In addition, the service should contribute to the prevention of injury and illness by co-operating with other agencies with similar aims and should assist in health education of the public.

1.5

Major Incident Planning

The EMS is crucially important in the provision of the response to major incidents. The Emergency Department provides the focus for the hospital response to such incidents.

Each hospital should have a Hospital Major Incident Plan. The pivotal role of the ED should be recognised. Such Major Incident Plans will contain many elements common to most hospitals. They should reflect particular hazards within a given catchment area e.g. an airport or major public gatherings. Exercises based on such plans must be regularly run. Plans should be reviewed on the basis of lessons learnt from such practice runs, and from actual incidents.

Budgetary provision should be made at hospital level for the extra equipment required for the management of major incidents and the regular enactment of such plans either in tabletop format, or as full exercises.

Provision should be made for an individual ED to cope with large-scale emergencies that may occur within the hospital campus.

Key ED staff should be encouraged to attend appropriate Major Incident management courses such as the Major Incident Management and Support Course (M.I.M.M.S.).

1.6

Continuing Care

The majority of patients should be discharged from the care of the Emergency Department after their first visit. Emergency Departments however should take account of the fact that a proportion of patients will require further departmental review. Such review does not supplant the requirement for General Practitioner follow up.

1.6.1

Referral to OPD Clinics

Emergency Department staff should have access to appropriate clinics for continuing care of emergencies e.g., Fracture clinics, Ophthalmic clinics, Ear Nose and Throat clinics. Emergency staff should be aware however, that it is more appropriate for all but emergency hospital clinic appointments to be made by referral by the patient's General Practitioner. In this regard the ED must not be used inappropriately to circumvent normal channels of referral.

1.7

Availability of doctors from other specialties

Hospital doctors who are "on call" to the ED should be rostered in such a way that they are available without delay. Their primary responsibility should be to the ED and not Outpatient work or planned surgery when "on call".

1.8

Emergency Department Bed Facilities

There are certain conditions that are most effectively observed and treated in a ward area within the Emergency Department. A number of "protected" designated beds should be provided.

1.9

Other Services

Emergency Departments are inevitably involved in the provision of a number of additional services to the public in times of need e.g. telephone advice, bereavement counselling etc. Such services must also be taken into account when considering staffing and design of Emergency Departments.

2 **CATEGORISATION OF EMERGENCY DEPARTMENTS**

Emergency Departments should be under the direction of Consultants in Emergency Medicine.

The IAEA recommends the "Hub and Spoke" model of provision of Emergency Medicine services. This means a central base hospital, with a network of affiliated units. This model may be adapted to provide for geographical and demographic factors in this country.

2.1

Central Emergency Department - (The "Hub")

Such a facility should have the following specialties on site, with a Consultant in Emergency Medicine available on call 24 hours a day. This will require a minimum of 3 Consultants in Emergency Medicine.

Acute Medicine

Cardiology

General Surgery

Orthopaedics

Anaesthetics

Intensive/Coronary Care

Radiology (with 24 hour access to a CT Scanner)

Pathology (with 24 hr access to Haematology, Chemical Pathology and Blood transfusion)

Gynaecology

Paediatrics

Psychiatry

2.2

Affiliated Emergency Unit – (The "Spoke")

At least General Medicine, General Surgery, Anaesthetics and X-ray facilities should be on site.

The IAEA recommends that these units have an affiliation with the Central Emergency Department. The range of services delivered in these units and protocols for management and transfer of patients to the Central Department will be agreed with the Consultants in Emergency Medicine.

See [Appendix 1](#)

Supporting Specialties for an Emergency Unit
for further requirements.

3 **BED REQUIREMENTS**

3.1

General Bed Requirements

Once the decision is taken by Emergency Medicine staff (in conjunction with the admitting specialty) that an individual patient requires hospital admission it is imperative that a suitable bed be available in a timely fashion. Undue delay for admission from an Emergency Department to a hospital bed (more than 2 hours) is both unacceptable from the point of view of patient care and the efficient running of an ED. Delays in transferring patients to a ward has been shown to compromise outcome (including increased mortality).

Such delays also lead to a progressive deterioration in the ability of the ED to perform its primary function. This has safety implications both for patients remaining in the ED and for those arriving subsequently.

If for any reason more than one patient is awaiting admission for more than 4 hours additional qualified nursing staff must be provided.

Each hospital with an Emergency Department should have clear written admission policies and effective bed management, bed utilisation and discharge policies and procedures in place to ensure adequate bed availability for emergency admissions 24 hours a day.

Alternatives to using Emergency Departments to process GP admission referrals for less critically ill patients should be put in place e.g. Acute Assessment/Admission wards/ Early access ambulatory clinics.

3.2

Emergency Department Beds

Beds should be available in a dedicated ward setting within Emergency Departments for patients who are anticipated to require brief stays. Local policies, agreements and guidelines will determine the case-mix and throughput in these units. The following general principles however should govern their use: -

- a) This ward should be provided to admit patients from the Emergency Department to allow observation or emergency treatment.
- b) It should be open on a 24-hour basis and be under the administrative and clinical control of the Consultant in Emergency Medicine.
- c) The decision to admit should be that of the Emergency Medicine staff.
- d) Such beds should be ring-fenced from the general hospital pool
- e) If patients cannot be discharged after a period of observation, they must have priority admission to General Wards to prevent blocking of the Observation ward. This system will otherwise not function.

There should be one such bed per 6,000 new patient attendances per year.

4 **PROCESSES AND SERVICE INDICATORS**

4.1

Guidelines and Policies

Emergency Departments should have guidelines and policies in place as applicable. These will require regular updating, authorisation and dissemination. They should be conveniently stored and must be readily accessible to all relevant staff.

4.2

Emergency Medical Records

A record should be maintained on each patient who attends an ED. This record should contain: -

- Date, Time and Method of Arrival
- Triage information and classification
- History, relevant additional medical information and physical examination findings
- Details of other specialty involvement including time of referral
- Tests requested and results
- Treatment given and response
- Management plan including treatment prescribed and advice to patient / relatives
- Patient disposal
- Diagnostic coding
- Names and signatures of attending doctor and nurse

A copy of the record should accompany patients if they are admitted or referred elsewhere for continuing care.

4.3

Information Technology

Emergency departments should have relevant information technology systems in place. The presence of such clinical and administrative systems should enable accurate information collection, dynamic patient flow monitoring, clinical audit and research. It should also facilitate exchange of information between centres and recognition of patterns of frequent child attendance suggestive of a need for further scrutiny (Non-Accidental Injury).

4.4

Triage

An effective system of triage should be in place. Relevant triage information should be recorded by a suitably trained and experienced person and a Triage category assigned in accordance with a recognised National Triage standard.

4.5

Communication with External Agencies

Systems and structures for communication with General Practitioners, the Ambulance service, Gardai, Search and Rescue services, the Coroner and other external agencies should be in place.

4.6

Risk Management

Emergency Departments are high-risk areas for adverse events. It is imperative that hospital management instigates suitable formalised risk management strategies in consultation with the responsible Consultant(s) in Emergency Medicine.

Each ED should have a system in place to ensure that all x-rays taken on patients attending EDs are formally reported by a Radiologist and reports received in the ED within 24 hours of attendance. Systems should be in place to ensure that results at variance with the initial interpretation are appropriately addressed.

Laboratory reports similarly need to be reviewed and unexpected results / positive findings communicated to the patients General Practitioner or otherwise acted upon.

Information from complaints and litigation should be used to develop a risk management strategy.

4.7

Checking of Equipment

Suitable systems need to be in place to ensure regular checking and calibration of departmental equipment and documentation of same.

4.8

Teaching Environment

Each ED should promote a culture of learning and teaching with both mono- and multidisciplinary education. A suitable induction programme should be provided for new nursing and medical staff and each department should have an ongoing teaching programme.

Encouragement should also be given to staff to attend suitable life support and other relevant internal and external courses.

The development of specific teaching programs by cooperation between EDs should be encouraged.

4.9

Departmental Performance

Each ED must monitor the quality of care provided, with a view to improving its performance on an ongoing basis. Surrogate measures for quality of care include "door to needle time", complaints, critical incidents, quality of case notes and diagnostic case mix.

Achievement of quality targets will require appropriate additional resources.

4.10

Clinical Audit

Each ED should operate an active Clinical Audit Programme. Activities such as Cardiac Arrest and Major Trauma Management, as well as concordance with accepted clinical guidelines (asthma, spontaneous pneumothorax management etc.) would be suitable for the application of Clinical Audit.

5

EMERGENCY DEPARTMENT PERSONNEL

5.1

Consultant Medical Staffing

All Emergency departments should be under the direction of Consultants in Emergency Medicine.

Such Consultants will have completed formal training in Emergency Medicine and be qualified to the standards laid down by C mhairle na nOspid al.

All Central Departments should have a minimum of 3 Consultants in Emergency Medicine (W.T.E.). A rota of one in three is the most onerous acceptable.

Appropriate resources must be provided for annual leave, study leave for Continuing Professional Development (Continuing Medical Education) and other contractual and professional obligations.

5.2

Non-consultant Medical Staffing

5.2.1

"Middle Grade" Staffing

The doctor of first contact for patients attending an Emergency Department should be adequately trained. Currently the care of critically ill patients is primarily delivered by senior house officers (S.H.O.s), often at a very early stage of their post-graduate training.

A grade of Associate Emergency Physician must be introduced in order to ensure that most care provided in an ED Department is provided by a doctor of adequate experience.

It is envisaged that the new grade would have a structured training programme consisting of four years post-internship concluding with an exit exam (MRCS Edinburgh in Accident & Emergency Medicine and Surgery, or equivalent). Such staff could work in both Central and Affiliated units.

Should an incumbent decide to embark on the path to achieving a Certificate of Specialist Doctor (C.S.D.) they will be eligible to apply for entry to Specialist Registrar (SpR) training

The calculation of non-consultant staff numbers needed to service an Emergency Department has to be made considering a number of factors: -

- number of total patient attendances
- provision of holiday and CPD/Study leave etc.
- the length of the working week
- the requirement to cover the department 24 hours a day.

Safe working practice demands that, because of the particularly intensive nature of Emergency work, the working week of staff should not exceed 40 hours.

5.2.2

General Professional Grade Trainees

The ED is an ideal site for staff in training in a variety of specialties. These trainees would not provide a full service commitment. Trainees would ideally be from the fields of Medicine, Surgery, General Practice, Anaesthetics and Emergency Medicine.

The IAEA believes that the start date for SHOs is currently unsatisfactory. Staff should not take up duty on either a Public Holiday, or a weekend.

Given that the rate of patient flow for trainees in a mixed acuity department is of the order of 2 new patients per hour, the I.A.E.A. recommends one General Professional Trainee per 3,000 patient attendances (based on a 40-hour week) per annum

A department with 24,000 attendances would thus require 8 GPT medical staff. This in fact represents the absolute minimum needed to run a 24-hour service regardless of attendances.

5.2.3

Specialist Registrars

In Emergency Departments accredited for Specialist Registrar (SpR) training, this grade of middle grade staff will be available to the department from time to time. Because of the obligation of doctors in this grade to go on secondment outside the parent Emergency Department, their contribution to the service can only be calculated as 0.3 wte of a GPT.

5.3 Nurse Staffing

5.3.1 Staffing Levels

There should be a minimum of one staff nurse per 1,250 patient attendances per year. Factors requiring additional nurse staffing over and above this minimum include the following: case mix, additional roles (e.g. triage, nurse practitioner and other extended roles), physical layout of the department and periods of peak demand for services. The presence of an observation ward will also require additional nurse staffing. Where for any reason more than one patient awaits a bed for longer than four hours, extra nursing staff should be provided.

Nursing staff should be in sufficient numbers to allow patient care and flow take place with sufficient leeway to deal with emergencies that may arise.

5.3.2 Training Levels for Staff nurses

The minimum level of training required of a staff nurse in an Emergency Department should be six months post-registration and a four-week orientation period working in the Emergency Department as a supernumerary with an experienced nurse mentor. Two-thirds of nursing staff in all Emergency Departments should have completed a post-registration Emergency course.

All nursing staff working in Emergency Departments should attend recognised Trauma, Cardiac and Paediatric Resuscitation Courses within two years of commencing employment in the department.

Where Advanced Nurse Practitioners are employed these should be trained to the appropriate standard.

5.3.3 Nurse Management

Suitable nurse management structures should be in place in all Emergency Departments. The exact model will depend on the size of an individual department and will be in accordance with the Commission on Nursing recommendations

5.3.4 Nursing Auxiliary Personnel

Nursing auxiliary personnel may also be necessary. The duties and responsibilities of such personnel should be clearly delineated. Departmental workload and patient case mix will determine the numbers of such personnel.

5.4 Other Staff

5.4.1 General

All non-professional staff who are working in the Emergency department should have training in Basic Life Support (B.L.S.) and have completed an orientation programme.

5.4.2 Reception / Clerical Staff

The Reception staff are often the first point of contact with the patient. Their crucial role thus needs to be appreciated. The importance of patient documentation and prompt chart retrieval cannot be over emphasised.

In Central EDs the reception needs to be manned by dedicated ED reception staff 24 hours per day irrespective of weekends and Public Holidays. Other cover arrangements may be adequate in affiliated units.

5.4.3 Secretarial Staff

A minimum of one dedicated medical secretary is required per wte Consultant in Emergency Medicine in a Central ED. There should be full cover for absence due to leave.

Further secretarial time will be required depending on:-

- a) Additional commitments of a Consultant such as Medical Advisory role to the ambulance service.
- b) Commitments outside the lead department e.g. responsibility / sessional commitment to other Emergency facilities.
- c) Academic requirements e.g. in a teaching hospital setting.

5.4.4 Portering / Attendant Staff

Porters should be available exclusively to the ED at all times over the twenty-four hours to move patients, equipment etc. In general, as patients may arrive to the Emergency department at any time there should be a porter based in the department to deal with them, in addition to any porters who may have gone to a ward with a patient.

5.4.5 Domestic Staff

There is a requirement for a full-time domestic within Central EDs and affiliated units. Cleaning staff must also be readily available as spillages occur throughout the day and night.

5.4.10

Security Staff

An Emergency Department remains open to the public at all times. Patients, relatives and staff are thus vulnerable to actual, threatened or perceived threat of violence, or theft. As violent incidents may occur without warning it is important that a dedicated Security presence be available in the Department at all times. It is not sufficient that a security officer be elsewhere on the hospital campus.

Additionally suitable security measures to protect patients, the public and staff should be in place. These will vary from department to department but may include security screens, CCTV, personal alarms etc

5.4.11

Physiotherapy Service

One full-time physiotherapist is required to be assigned to the ED per 20,000 patient attendances per year.

5.4.12

Social Work support

Every Emergency department should have access to Social services around the clock. The current provision of Social Work Services only within office hours, Monday to Friday is completely inadequate and needs to be addressed as a priority. At least one full-time Social Worker should be assigned to a Central ED. *Affiliated units* should have ready access to Social Work support.

5.4.13

Other Supporting Staff

All *Central EDs* and *Affiliated Units* have a need for ready access to the following services:-

- Occupational Therapy
- Clinical Nutrition
- Pastoral Care
- Interpretation Services
- Volunteer Services
- Public Relations

5.4.14

Staffing of an Observation Ward.

An ED Observation Ward needs adequate staffing levels. These are additional to those needed for the Emergency Department Core Service.

6 **SUPPORTING DEPARTMENTS AND SERVICES**

6.1

Interface With Social Services and External Agencies

Emergency Departments are required to provide services to many disparate and needy groups of people such as the homeless, alcoholics, drug abusers, victims of domestic violence, victims of non-accidental injury amongst others. Emergency Departments must be staffed, structured and designed to provide these services. Each department should have ready access to social work support on a 24 hour basis and should be aware of and have direct access to local facilities such as Rape Crisis centre, refuge for victims of domestic violence, shelters for homeless etc.

6.2

Non-clinical Support

All Emergency Departments should have ready access to laundry, pharmacy and sterile supplies. Suitable arrangements should be in place to ensure out-of-hours access.

Provision for emergency out-of-hours maintenance support needs to be made.

6.3

Out of hours Radiography and Laboratory Services

Radiography and Laboratory Services need to be immediately available to Central EDs on a 24-hour basis.

7 **DESIGN FEATURES OF AN EMERGENCY DEPARTMENT**

7.1

Accessibility

Each Emergency Department should be clearly signposted from all hospital entrances and from major hospital thoroughfares. Such signs should follow the convention of "Emergency Department" in white lettering on a red background. EDs must be readily accessible to those with disabilities.

All acute hospitals should have a Helipad on site. This should be sited on the hospital campus so as to allow easy access to the ED.

7.2

Space

Attendances to an Emergency Department fluctuate greatly from day to day and from hour to hour. Space requirements should therefore be estimated on the basis of peak loads, taking into account the urgency of clinical problems and should err on the side of apparent over provision

Space within the Emergency department can be divided into:

- Primary Activity Space (Those areas where patient care is given)
- Support and Administrative Space

7.3

Primary Activity Space

The Clinical Area can be regarded as comprising the Triage Area, Waiting Area, Resuscitation Room, Cubicles (Major & Minor), Plaster Room, Procedures room, Interview room, Clinical station, Staff Clinical Room and Emergency Ward.

7.4

Support and Administrative Space

This area is the administrative and rest area. It should include offices for Consultant Staff, Sister, Secretary, NCHD staff, Reception and Medical Record Storage Area, Library / Conference / Teaching Area, Bedroom for the On-Call doctor, Staff Rest room, Staff Changing area (including Showers), security station etc.

7.5 Special Design Features

7.5.1 Entrances

There should be two entrances, one for walking wounded and visitors, the other for Ambulance patients, ideally with the triage area in between so as to ensure that a rapid assessment can be made of a patient's clinical acuity and priority.

The entrance for walking wounded should be in close proximity to the waiting area.

The entrance for ambulance patients should have immediate access to the resuscitation room and cubicle areas. The ambulance entrance should have a canopy over it to protect patients from the elements during transfer.

The approach to the Ambulance area should be designed to allow for maximum manoeuvrability of ambulances and parking facilities for ambulances delivering patients to the Department. Parking of private cars will need to be prohibited and this prohibition enforced by suitable Hospital bylaws so that access by the Emergency Services is maintained 24 hours a day. Parking facilities for patients and their relatives should be available near to the ED as should set-down facilities.

7.5.2 Access Within the Department

Corridors within the department should be wide and all doors should allow for the passage of trolleys. There should be ease of access to resuscitation and treatment areas for medical and nursing staff. While it is vitally important that all patients within the department should be observable, they should not be on view to the public. Patients being transferred through the department or to other areas such as radiology should be exposed as little as possible to public scrutiny.

7.5.3 The Reception Area

The waiting area should be visible from the Reception Area and there should be direct access from the reception area to the clinical area.

There needs to be a sufficient number of Reception "hatches" to ensure that patients do not wait unduly for registration. Such Reception Areas should be configured to ensure patient privacy when providing their personal details. Inputting information on modern computer systems takes 7-10 minutes therefore there should be the availability of a station per 6 patients per hour at peak times. ED records for the current year and previous year should be available in, or adjacent to, this area. Provision of Document Imaging may ease this burden on space

7.5.4

The Waiting Area

The waiting area should be well lit, spacious but internally divided to provide for smaller groupings of patients and relatives. There should be separate waiting areas for adult and paediatric patients and their friends and relatives. Toilet and baby changing/ feeding facilities as well as payphones/ card phones are required. Such facilities should be fully accessible to disabled patients or relatives. Waiting areas should be pleasantly decorated and equipped with beverage machines. There should be a television and/or music. The opportunity for Health Education should be used maximally. Signage within the department is important and should allow for accurate up-to-date information to be transmitted to those waiting. Patient liaison staff may be of value. Communication (especially on waiting times) ensures that violence and aggression is minimised.

7.5.5

Triage

A room adjacent to the Reception area in close proximity to both the Ambulance and Walking wounded entrance needs to be set aside for initial nursing assessment so that an appropriate Triage category can be assigned. This room needs to be strategically positioned so that the Triage nurse can monitor the Waiting Area and have direct access to the ED clinical area.

7.5.6

Staff Facilities

A staff rest room is mandatory. This needs to be slightly away from the clinical area so as not to impact on patients in the ED. It should contain snack-making facilities as staff in Emergency Departments need to remain close by in case they are needed urgently. It needs to be of sufficient size to accommodate nursing, medical and support staff. Ideally a "quiet" room should also be available.

In addition adequate facilities for staff changing and showering must be provided as contamination is a common event in an ED.

7.5.7

On-call Facilities

A separate bedroom with en-suite facilities should be provided for each resident night duty doctor. This should be sufficiently close to the Department to allow a rapid response when summoned.

7.5.8

Office Facilities

There should be sufficient office space to facilitate nursing, medical and departmental secretarial staff. Middle grade medical staff will require office facilities. A separate office should be provided for each Consultant in Emergency Medicine.

7.5.9

Teaching Facilities

Conference room facilities and general teaching facilities must be provided within Central Emergency Department. It is also necessary to provide a Library area where junior staff can refer to appropriate texts as the need arises. Less comprehensive facilities may be needed in an affiliated unit, but must be readily available elsewhere in the hospital. Internet access should be available to on line Emergency Medicine and Toxicology services e.g. Toxbase.

7.5.10

Major Incident Capability

In the design of Central EDs, consideration must be given to the need for the department to increase its capacity to handle casualties from a Major Incident. In addition, they should have facilities to allow for patient isolation and decontamination.

7.5.11

Miscellaneous

Central EDS should give consideration to providing separate facilities e.g. a primary care unit, minor injury unit, chest pain assessment units, clinical decision making units etc. as appropriate to local needs.

There should be facilities for tele-radiology, tele-medical links and other appropriate information technology support systems.

The ED must have easy access to areas of the hospital which may be required to manage critically ill and injured patients including the Operating Theatres, Intensive Care Unit, Coronary Care Unit etc.

8

E.D. FACILITIES AND EQUIPMENT

8.1

Resuscitation Room

The number of bays required in the resuscitation area is dependant on the patient load and case-mix. It must be individualised for each department. An overhead x-ray gantry should be standard within the Resuscitation Room in all new facilities. Consideration should be given to retro-fitting this equipment in pre-existent facilities

Each resuscitation bay should be large enough to accommodate one height adjustable and tilting trolley with 1 metre clearance on all sides of the trolley.

Equipment in each bay should include:-

- Airway board accommodating all equipment for intubation
- Monitoring equipment enabling monitoring of pulse rate, electrocardiogram (ECG), non-invasive blood pressure (NIBP), Oxygen saturation (SaO²), End-tidal Carbon Dioxide (E_TCO²) and at least one invasive channel.
- Defibrillator with External Pacing
- Ventilator
- Medical gases, suction
- Ophthalmoscope/Auriscope
- Ceiling mounted tracks for Intravenous fluids
- High intensity adjustable mounted light to operating theatre standard
- Rewarming facilities for Hypothermic patients.
- Infusion pumps and syringe drivers

The Resuscitation room should contain a Refrigerator, Blood & Fluid warming equipment (which should allow high-volume infusion), an Anaesthetic machine and a drug cupboard (including access to Controlled drugs and Anaesthetic agents). Adequate x-ray viewing facilities must be available. A separate storage area for consumables and occasionally used equipment must be available adjacent to the Resuscitation Room. A Resuscitation Room should also have easy access to a suitable refrigerated fridge storing an agreed number of O negative blood for use in a dire emergency.

8.2

Major Treatment Area

Each cubicle in this area should have a height adjustable and tilting trolley. There should be facilities for airway care, suction and monitoring of ECG, SaO² and NIBP. Facilities for ophthalmoscopy and auroscopy must be available in each cubicle. An overhead intravenous track should be fitted.

8.3

Minor Treatment Area

Every *Central Emergency Department* should contain a number of minor treatment cubicles. These cubicles should be equipped similarly to the major treatment cubicles (including having a height adjustable and tilting trolley) except that cardiac monitoring apparatus is not required. There must be a defibrillator available to the area. An adjustable mounted, high intensity light should be provided in each cubicle.

8.4

Paediatric Treatment Area

Departments that see both adults and children should have a separate paediatric examination and treatment area. This area should be audio-visually separated. It should be equipped as a Major Treatment Room but with paediatric equipment and consumables. It should be child-friendly and decorated appropriately.

8.5

Psychiatric Room

A specific room should be set aside for interviewing psychiatric patients (in accordance with Royal College of Psychiatrists Guidelines).

8.6

Plaster Room

This should have facilities for reduction of fractures, including monitoring equipment etc. There should be an evacuation system for removing plaster dust.

8.7

Clinical Station

This station should have a view of the entire working area. If this is not possible an additional smaller satellite station may be needed. It should be of sufficient size to allow Emergency medical and nursing, as well as visiting staff to work. It would be preferable if the visiting staff could have their own area. It will need to be designed to accommodate computers, telephones, fax, paper, request forms, a photocopier, X-ray viewing boxes, desks, chairs etc.

8.8

Isolation Room

For the management of patients with specific high-risk conditions, such as neutropaenic crisis, open TB or viral haemorrhagic fever..

8.9

Interview Room

A room needs to be available to interview patients in private. This room should have two exits so that if a patient becomes violent there is an escape for the clinical person.

8.10

Bereaved Relatives Room

An office sized room should be available close to the Resuscitation room where relatives of seriously ill patients or deceased patients can grieve away from the public eye. This should be appropriately decorated, have tea / coffee making facilities, have a telephone and be adjacent to toilet facilities. Information in the form of leaflets, telephone numbers of support groups etc. should be near at hand to facilitate the bereaved.

8.11

Temporary Mortuary

A suitable room should be available adjacent to the Resuscitation Room to act as a temporary mortuary pending transfer to the main hospital mortuary.

8.12

Procedures Room

There should be at-least one room available within the department to allow for specialised procedures. This may be equipped in a similar fashion to a minor operating theatre.

8.13

Staff Clinical Room

There is need for an office-type room where staff matters may be dealt with in private. Such things as off duty etc. would be held here. It also allows for private discussions between members of staff, post resuscitation debriefs etc at appropriate times.

8.14

Teaching Facilities

A teaching/seminar/conference room needs to be provided. All standard presentational aids should be available. Training mannequins and simulators should be available, but may be shared with other departments.

8.15

Utility Areas

Clean and dirty utility areas should be adjacent to the cubicle area. These should be similarly equipped to acute wards.

8.16

Emergency Observation Ward

This needs to be fully equipped as an acute ward. In addition to normal ward furniture, nurses station etc., the ward should have its own toilet and bathroom facilities.

8.17

Storage Facilities

The Emergency Department requires adequate room for storage of equipment, linen etc.

8.18

Special Equipment Store

Equipment is required for providing life support in transit within and outside the hospital. Similar equipment must also be available for hospital teams involved at accident or disaster sites.

Wheelchairs and other equipment also requires a dedicated storage area within the ED.

8.19

ED Radiology Suite

Every department should have a dedicated radiology suite adjacent to it. ED patients should not be competing for routine Radiography with patients from Outpatients, GP referrals, hospital inpatients, fracture clinic patients etc. Consideration needs to be given to the provision of adequate waiting facilities for ED patients in this Radiology Suite.

8.20

Emergency Investigation Laboratory

This facility would be used for Blood gas analysis and other point of care testing facilities. It should be adjacent to the Resuscitation Room.

8.21

Additional Privacy

Some patient presentations (suspected child abuse, gynaecological presentations etc) require even greater degrees of sensitivity and privacy than the average. Consideration therefore needs to be given to ensuring that all departments have an adequate number of suitable side rooms, fitted out to the same standard as minor treatment cubicles, that can be used in these situations.

8.22

Major Incident Equipment Storage

A suitable room needs to be available for storage of equipment, triage cards etc. that would be required if a Major Incident was declared.

8.23

Security Station

A suitable security station needs to be provided so as to ensure control of entry to the department as well as access to CCTV monitors of various vulnerable areas of the department.

APPENDIX 1

SUPPORTING SPECIALTIES FOR AN EMERGENCY FACILITY

A1.1

A Central ED requires as a minimum that the following specialties be available and readily accessible on site:-

Acute Medicine.
Cardiology.
General Surgery.
Acute Orthopaedics.
Anaesthetics.
Intensive/Coronary Care.
Radiology (with 24 hour access to a CT Scanner).
Pathology (with 24 hr access to Haematology, Chemical Pathology and Blood transfusion).
Gynaecology.
Paediatrics.*
Psychiatry.*

The hospital should support an active Trauma Team and a Cardiac Arrest Team. In the larger Institutions, these will usually be provided from within the Emergency Department itself.

* If a department receives Paediatric Emergency or Psychiatric patients there must be ready access to Acute Paediatrics and Psychiatry to allow advice / support to be given. Ideally these facilities should be on site.

A1.1.1

The following specialties need not necessarily be on site but suitable access is required:-

Ear, Nose & Throat.
Ophthalmology.
Care of the Elderly.
Neurosurgery and Neurology.
Obstetrics.
Cardio thoracic Surgery.
Oral & Maxillofacial Surgery.
Plastic Surgery (& Burns Unit).
Genitourinary Medicine.
Other Specialist Surgery e.g. Vascular Surgery, Urology etc.
Substance Abuse

A1.2

An Affiliated Unit should have available to it as a minimum the following specialties on site:-

Acute General Medicine.

Acute General Surgery (including major theatre availability 24 hours a day).

Anaesthetics.

Intensive / Coronary Care Facilities.

Radiology.

Pathology (Haematology, Chemical Pathology and access to blood transfusion products 24 hours a day).

Ready access is required to the following specialties:-

Gynaecology.

Paediatrics.

Acute Orthopaedics.

Psychiatry.

Ear, Nose & Throat.

Ophthalmology.

Care of the Elderly.

Neurosurgery and Neurology.

Obstetrics.

Cardio thoracic Surgery.

Oral and Maxillofacial Surgery.

Plastic Surgery (and Burns Unit).

Genitourinary Medicine.

Other specialist surgery e.g. Vascular Surgery, Urology etc.

Substance abuse

The hospital should support an active Cardiac Arrest Team.

APPENDIX 2

Space considerations for Emergency Departments

Emergency Departments should be designed with close consultation between the end-users and the architectural advisors for the project.

The following is considered the minimum space requirement for clinical areas in a Central Emergency Department:

- 1 resuscitation bay per 10,000 new attendances**
- 1 major cubicle per 5,000 new attendances**
- 2 minor cubicles per 5,000 new attendances**

In addition, adequate circulation space, clerical workspace and support areas such as office accommodation, teaching areas and staff rest rooms are required.

Advised Reading:

"Emergency Department Design" L M Riggs (Ed)
© 1993 American College of Emergency Physicians

APPENDIX 1 SCHEDULE OF ACCOMMODATION

<i>Main Entrance Draught Lobby</i>	20 square metres
<i>Reception Area</i>	20 square metres for 20,000 visits + 5 square metres per extra 10,000 visits / year
<i>Main Waiting Area</i>	30 square metres for 20,000 visits + 5 square metres per extra 10,000 visits / year
<i>Children's Waiting / Play Area & Nappy Change</i>	12.5 square metres for 20,000 visits + 1.5 square metres per extra 10,000 visits / year
<i>Infant Feeding Room</i>	4 square metres
<i>Patients & Escorts WC</i>	2 X 2 square metres for 20,000 visits + 2 square metres per extra 10,000 visits / year
<i>Disabled Persons' WC</i>	4 square metres
<i>Clean Utility</i>	10 square metres
<i>Dirty Utility</i>	10 square metres
<i>Clinical Staff Room</i>	10 square metres
<i>Specimen WC</i>	4 square metres

<i>Decontamination Area</i>	12 square metres
<i>Bereaved Relatives Room</i>	10 square metres
<i>Interview Room</i>	12 square metres
<i>Consultant's Office</i>	12 square metres per Consultant
<i>Secretary's Office</i>	18 square metres + 6 square metres per additional Consultant
<i>Staff Rest Room</i>	10 square metres for 20,000 visits + 2.5 square metres per extra 10,000 visits / year
<i>Sister's Office</i>	10 square metres
<i>Medical Staff / Audit Office</i>	13 square metres
<i>Trolley / Wheelchair parking area</i>	6 square metres for 20,000 visits + 2 square metres per extra 10,000 visits / year
<i>Records store</i>	8 square metres for 20,000 visits + 3 square metres per extra 10,000 visits / year
<i>Supplies Storage space</i>	30 square metres for 20,000 visits + 5 square metres per extra 10,000 visits / year

MAIN CLINICAL AREAS

<i>Triage Bay</i>	5 square metres
<i>Resuscitation Area</i>	Minimum two bays for 20,000 visits 1 extra bay for each additional 15,000 visits / year
2 Bay Resuscitation Area	46.5 square metres
3 Bay Resuscitation Area	56.5 square metres
4 Bay Resuscitation Area	69 square metres
5 Bay Resuscitation Area	85 square metres
<i>Major treatment area</i>	8 Cubicles minimum for 20,000 visits 1 extra cubicle for each additional 2,250 visits / year Each cubicle should be a minimum of 9 square metres
<i>Minor treatment area</i>	Minimum 4 cubicles

Plaster Room

Minimum two bays for 20,000 visits
1 extra bay for each additional 20,000 visits / year

Clinical Station

18 square metres for 20,000 visits
An extra 9 square metres for each additional 10,000 visits / year