STANDARDS FOR ACCIDENT & EMERGENCY DEPARTMENTS IN IRELAND

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1. INTRODUCTION.

The Irish Accident & Emergency Association (I.A.E.A.) was constituted in 1991. It consists of Consultants in Accident & Emergency working in the Republic of Ireland. One of its objectives is to establish the standards of provision of Accident & Emergency Services that should be available throughout the Republic of Ireland. It is with this aim in mind that we have produced the following document.

This document represents the association's view on the role of Accident & Emergency departments, staffing of such departments and aspects of design of such departments to fulfil the demands made upon them.

2. ROLE OF THE ACCIDENT & EMERGENCY SERVICE

2.1 PROVISION OF CARE FOR ACCIDENTS & EMERGENCIES

The Accident & Emergency service should provide optimal facilities for the initial reception and treatment of patients with acute injuries and sudden unexpected illness, so that the best possible outcome may be achieved

2.2 TRAINING OF STAFF IN ACCIDENT & EMERGENCIES

The service should contribute to the professional development of medical, nursing and other staff by providing formal training as well as opportunities of gaining experience under the supervision of experienced staff.

2.3 RESEARCH AND ACCIDENT PREVENTION

The service 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 accidents by co-operating with outside agencies with similar aims and help in education of the public.

2.4 MAJOR INCIDENT PLANNING

The Accident & Emergency service should provide the focus for the medical response to major disasters. In addition, the service is often expected to provide medical and nursing staff to cover major events within the catchment area of the service e.g. concerts, football matches etc.

2.5 CONTINUING CARE

The majority of patients should be discharged from the care of the Accident & Emergency department after their first visit. The Accident & Emergency service however should take account of the fact that a proportion of patients will require further review

This review should not supplant the requirement for General Practitioner follow up.

In addition Accident & Emergency staff should have access to appropriate clinics for continuing care e.g., Fracture clinics, Ophthalmic clinics, Ear Nose and Throat clinics although Accident & Emergency staff should be aware that it is more appropriate for all but emergency clinic appointments to be made by the General Practitioners.

2.6 **ACCIDENT & EMERGENCY WARD**

There are certain conditions that are most effectively observed and treated in the Accident & Emergency department. In view of this a number of beds should be provided for their care.
Such beds should therefore be "protected".

2.7 **INTERFACE WITH SOCIAL SERVICES**

The very nature of the Accident & Emergency services means that the speciality and the departments must cope with many disparate and needy groups of people such as the homeless, alcoholics, drug abusers, victims of domestic violence, victims of non-accidental injury and others. The Accident & Emergency service must be staffed, structured and designed to address these issues. Each department should have ready access to social work support on a 24 hour basis.

2.8 **OTHER SERVICES**

The Accident & Emergency service are also 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 Accident & Emergency departments.

2.9 **THE ACCIDENT & EMERGENCY SERVICE**

Every acutely injured ill or injured person in the country must have rapid access to the accident emergency services (EMS). The EMS consists of the ambulance service and access to it, pre-hospital care systems, Accident & Emergency departments, intensive care facilities and definitive care services. The Accident & Emergency department and the speciality of Accident & Emergency form the core of the E.M.S. This pivotal role must be recognised. As it is only in the recent past that consultants have been appointed to Accident & Emergency departments throughout this country these services have not been developed to an appropriate level.

3. CATEGORISATION OF ACCIDENT & EMERGENCY DEPARTMENTS

To ensure that all patients throughout the country receive an appropriate level of emergency care Accident & Emergency departments in all Regional Hospitals and University Teaching Hospitals should have a ***Comprehensive Accident & Emergency Service*** with County / General hospitals providing a ***General Accident & Emergency Service.***
All A&E services should be under the direction of an Accident & Emergency consultant.

Comprehensive Accident & Emergency Service

Such a service should have on site the following specialities:-
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

General Accident & Emergency Service

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

See **Appendix 2** ***Supporting Specialities for an Accident & Emergency Service*** for further requirements.

4. BED REQUIREMENTS

4.1 Accident & Emergency Department Beds

Beds should be available within Accident & Emergency departments (as described in 2.5) for patients who are anticipated to require brief stays. Local policies, agreements and guidelines will determine the through-put in these units. The following general principles should govern their use:-

a.- These beds should be provided to admit patients from the Accident & Emergency department for short periods to allow observation or emergency treatment.
b.- It should function on a 24 hour basis and be under the control of the Accident & Emergency department.
c.- The decision to admit should be that of the Accident & Emergency staff.

There should be one bed per 5,000 new patient attendances per year.

4.2 General Bed Requirements

It is essential that sufficient beds are available without undue delay for admission from the Accident & Emergency department.
Delays in transferring patients to the wards results in a progressive deterioration in the ability of the Accident & Emergency department to perform it's function

5. PROCESSES AND SERVICE INDICATORS

5.1
Accident & Emergency departments should have in place guidelines, and policies where applicable.
These will require regular updating and must be readily accessible to all staff.

5.2
Accident & Emergency departments should have relevant information technology systems in place. The presence of such systems should enable accurate information collection, dynamic patient flow monitoring, clinical audit, total quality management and research.

5.3
Systems for communication with General Practitioners and other external services should be in place.

5.4
Facilities should be made available by hospital management to instigate suitable formalised risk management strategies.

6. ACCIDENT & EMERGENCY DEPARTMENT PERSONNEL

6.1 MEDICAL STAFFING

6.1.1. Consultant staffing

All ***Accident & Emergency Services*** must be under the direction of Consultants in Accident & Emergency. Such an individual will have completed formal training in Accident & Emergency Medicine.

Consultants within a Health Board or service may have responsibility for a number of Accident & Emergency departments within that service. Thus Consultants may share the responsibility for Accident & Emergency departments and other services on a local or regional basis. The levels of commitment and responsibility and how these are allocated will be determined at local level. Appropriate resources must be provided to enable Consultants pursue these tasks.

The number of Consultants allocated to a service will be dependent upon the numbers of new patient attendances for that service:-

Up to - 50,000 new attendances	-	2 Consultant
50,000 - 75,000 new attendances	-	3 Consultants
75,000 - 100,000 new attendances	-	4 Consultants

6.1.2 Non-consultant Medical Staffing

Accident & Emergency departments provide a service first and foremost and training to staff thereafter. The I.A.E.A. believes that the doctor of first contact for patients attending should be experienced and clinically competent.
Safe working practice demands that, because of the intensive nature of A&E work, the working week of staff should not exceed 40 hours.

The calculation of middle grade staff numbers needed to service any A&E department has to be made using a number of variable factors. These factors include number of total attendances (1 per 3000 new attendances based on a 40 hour week) and provision of holiday and CME/Study leave etc.

For a department with 24000 attendances this would need 8 middle grade staff.
This is the minimum needed to run a 24 hour service regardless of attendances.

The I.A.E.A. considers it necessary that middle grade staffing should consist of doctors who have completed general professional training. Such doctors may then join the staff of Accident & Emergency departments on a permanent basis or as a step in their full training for Accident & Emergency Medicine. Such middle grade staff would work both in *Comprehensive Accident & Emergency departments* and *General Accident & Emergency departments.*

Trainee Medical Staff
The Accident & Emergency department is an ideal site for staff in training in a variety of specialities. These trainees would not provide a full service commitment. Trainees would ideally be from the fields of Medicine, Surgery, General Practice, Anaesthetics and Accident & Emergency Medicine.

6.2 **NURSE STAFFING**

Factors affecting nurse staffing include the following: number of patients attending, case mix, role (e.g. triage, nurse practitioner), physical layout of the department and periods of peak demand for services. The presence of an observation ward will also require additional nurse staffing. Nursing staff should be of sufficient numbers to allow patient care and flow take place with sufficient leeway to administer to emergencies that may arise. There should be a minimum of one staff nurse per 1,250 patient attendances per year.

The minimum requirement for training of a staff nurse in an Accident & Emergency department would be six months post-registration and a four week orientation period working in the Accident & Emergency department as a supernumerary with an experienced nurse mentor. Two-thirds of nursing staff in all Accident & Emergency departments should have completed a post-registration Accident & Emergency course.
The I.A.E.A. believes that all nursing staff working in Accident & Emergency departments should complete recognised Trauma, Cardiac and Paediatric Resuscitation Courses within two years of commencing employment in the department.

Nursing auxiliary personnel may also be necessary. The duties and responsibilities of such personnel should be clearly delineated. The numbers of such personnel will be determined by departmental workload and patient case mix.

Where for any reason more than one patient awaits a bed for longer than six hours, an extra qualified nurse should be provided.

6.3 **OTHER STAFF**

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

6.3.1 Clerical Staff

The importance of patient documentation and prompt chart retrieval can not be over emphasised.
The clerical staff are often the first point of contact with the patient.
The reception needs to be covered 24 hours per day.

6.3.2 Secretarial Staff

A minimum of one departmental secretary is required in al *Comprehensive Accident & Emergency Department.* There should be full cover for absence due to leave.
Further secretarial time will be required depending on:-
a) Number of Consultants
b) Additional commitments such as advisory role to the ambulance service.
c) Extra-departmental commitments e.g. advising on other emergency departments.
d) Academic requirements e.g. in a teaching hospital setting.

6.3.3 Portering / Attendant Staff

Porters should be available at all times over the twenty-four hours to move patients, equipment etc. In general, as patients can arrive at the Accident & Emergency department at any time there should be 2 porters in the department to deal with them. This is in addition to a porter who may have gone to a ward with a patient.

6.3.4 Domestic Staff

There is a requirement for a full-time domestic within *Comprehensive* and *General Accident & Emergency units.* Cleaning staff must be available at all times as spillages occur throughout the day and night .

6.3.5. Security Staff

An Accident & Emergency department remains open at all times. No person is excluded from entry. It follows therefore that staff will meet people of a violent nature on a regular basis. As violent incidents may occur without warning it is important that a Security presence be in the Department at all times. It is not sufficient that a security officer be elsewhere in the hospital.
Both patients and staff are vulnerable to violent episodes.

6.3.6 Physiotherapy Support service

One full-time physiotherapist is required per 40,000 patient attendances per year. Departments seeing fewer patients than this should have a service provided on a pro rata basis.

6.3.7 Social Work support

Every Accident & Emergency department should have access to Social services around the clock. At least one full-time Social Worker should be assigned to a *Comprehensive Accident & Emergency Department. General Accident & Emergency Departments* should have ready access to Social Work support.

6.3.8 Other Supporting Staff

All *Comprehensive* and *General Accident & Emergency Departments* have a need for ready access to the following services:-

* Pastoral Care
* Interpretation Services
* Volunteer Services
* Public Relations

7. SUPPORTING DEPARTMENTS AND SERVICES

The availability of in-hospital services will, to a large extent, determine the categorisation of a hospital's Accident & Emergency department

See **Section 3** and **Appendix 2**.

8. DESIGN FEATURES OF AN ACCIDENT & EMERGENCY DEPARTMENT

8.1 **BACKGROUND**

Visits to an Accident & 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 problems. Therefore there may be some variations from standard recommendations. The I.A.E.A. recommend a minimum space requirement of 1,000 square metres gross per 100 visits per day.

Space within the Accident & Emergency department can be divided into:

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

8.2 **PRIMARY ACTIVITY SPACE**

The clinical area can be regarded as comprising the Triage Area, Waiting Area, Resuscitation Room, Cubicles (Major & Minor), Plaster Room, Minor Operating Theatre, Interview room, Clinical station, Staff Clinical Room and Accident & Emergency ward.

8.3 **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)

Further details of space requirements are provided in **Appendix 1**

8.4 **SPECIAL DESIGN FEATURES**

8.4.1 Entrances

There should be two entrances. One entrance should be for walking wounded and lead by the reception desk to the waiting area. The other entrance should be for ambulance patients and should have immediate access to resuscitation or cubicle areas. The ambulance entrance should

have a canopy over it to protect patients from the elements during transfer.

8.4.2
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.

8.4.3 The Reception Area
The waiting area should be visible from here and there should be direct access from the reception area to the clinical area.
There needs to be a sufficient number of "hatches" to ensure that patients do not unduly wait for registration. Inputting information on modern computer systems takes 7-10 minutes therefore there should be the availability of a station per 6 patients per hour peak times.
Records for the previous and current year should be available in or adjacent to this area.

8.4.4 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 / cardphones are required.
Waiting areas should be pleasantly decorated and equipped with beverage machines. There should be a television and/or music. Signage within the department is important and should allow for information to be transmitted to those waiting. The I.A.E.A. strongly recommends the provision of such facilities and the maximising of communication to ensure that violence and aggression is minimised.

8.4.5
A staff rest room is mandatory. It should be of adequate size for the numbers of staff present. This needs to be slightly away from the clinical area so that patients will not get upset if noise comes from it. It should contain snack making facilities as staff in Accident & Emergency Departments need to remain close by in case they are needed urgently. It

needs to be a sufficient size to accommodate nursing medical and support staff.

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

8.4.6
A separate bedroom with an en-suite facility should be provided for night medical staff. This should be sufficiently close to the Department to allow a rapid response when summoned.

8.4.7
There should be sufficient office space to facilitate nursing, medical and secretarial staff. Separate office facilities will be required by Consultant and middle grade medical staff

8.4.8
Conference room facilities and general teaching facilities must be provided within the Accident & Emergency Department in *Comprehensive* and *General Accident & Emergency units.* It is necessary to provide a Library area where junior staff can refer to appropriate texts as the need arises.

8.4.9
Comprehensive Accident & Emergency Units should give consideration to providing separate facilities for ambulatory patients and a primary care unit.

8.4.10
In the design of the Accident & Emergency Department consideration should be given to the ability of the department to increase its capacity to handle casualties from a Major Incident. In addition *Comprehensive Accident & Emergency departments* should have facilities to allow for patient isolation and decontamination.

9. FACILITIES AND EQUIPMENT

9.1 **RESUSCITATION ROOM**

The number of bays required in the resuscitation area is indicated in

Appendix 2. An overhead x-ray gantry should be standard equipment within the resuscitation room.

Each resuscitation bay should be large enough to accommodate one height-tilting trolley with 1 metre clearance on all sides of the trolley. Equipment at 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 (SaO_2),
  - End-tidal Carbon Dioxide ($ETCO_2$)

  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

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)

9.2 **MAJOR TREATMENT AREA**

The number of cubicles required should be as indicated in **Appendix 2.** 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, SaO_2 and NIBP. Facilities for ophthalmoscopy and auriscopy must be available in each cubicle. An overhead intravenous track should be available.

9.3 **MINOR TREATMENT AREA**

Every *Comprehensive Accident & Emergency department* should contain four minor treatment cubicles. These cubicles should be equipped similarly to the major treatment cubicles (including having a height adjustable 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.

9.4 **PAEDIATRIC TREATMENT AREA**

Departments which see both adults and children should have a separate paediatric examination and treatment room. This room should be walled and sound-proofed. It should be equipped as a Major Treatment Room but rendered child friendly and decorated appropriately.

9.5 **PLASTER ROOM**

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

9.6 **CLINICAL STATION**

This station should have a view of the entire working area. If this is not possible an additional smaller sub-station may be needed. It should be of sufficient size to allow Accident & 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, paper, request forms, a photocopier, X-ray viewing boxes, desks, chairs etc.

9.7 **MINOR OPERATING THEATRE**

This should be the size of a standard operating theatre and have normal anaesthetic equipment etc.

9.8 **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.

9.9 **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 and have a telephone. Information in the form of leaflets, telephone numbers of support groups etc. should be near at hand to facilitate the bereaved.

9.10 TEMPORARY MORTUARY

9.11 PROCEDURES ROOM

There should be one room available within the department to allow for specialised procedures.

9.12 STAFF CLINICAL ROOM

There is need for an office type room where staff matters can 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 at appropriate times.

9.13 SEMINAR ROOM

A teaching/seminar room needs to be provided.
A screen and projector should be available

9.14 UTILITY AREAS

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

9.15 ACCIDENT & EMERGENCY 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.

9.16 STORAGE FACILITIES

The Accident & Emergency Department requires adequate room for storage of equipment, linen etc.
It may require a separate storage area for equipment, labels etc. to be used in the event of a Major Incident.

9.17 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.

9.18 SELF CONTAINED RADIOLOGY SUITE

Every department should have a dedicated radiology suite

919 EMERGENCY INVESTIGATION LABOROTORY

This would be used for Blood gas analysis etc.

APPENDIX 1 SCHEDULE OF ACCOMMODATION

Main Entrance Draught Lobby	20 square metres
Reception Area	20 square metres for 20,000 visits + 5 square metres per extra 10,000 visits / year
Main Waiting Area	30 square metres for 20,000 visits + 5 square metres per extra 10,000 visits / year
Children's Waiting / Play Area & Nappy Change	12.5 square metres for 20,000 visits + 1.5 square metres per extra 10,000 visits / year
Infant Feeding Room	4 square metres
Patients & Escorts WC	2 X 2 square metres for 20,000 visits + 2 square metres per extra 10,000 visits / year
Disabled Persons' WC	4 square metres
Clean Utility	10 square metres
Dirty Utility	10 square metres
Clinical Staff Room	10 square metres
Specimen WC	4 square metres
Decontamination Area	12 square metres
Bereaved Relatives Room	10 square metres
Interview Room	12 square metres
Consultant's Office	12 square metres per Consultant
Secretary's Office	18 square metres + 6 square metres per additional Consultant
Staff Rest Room	10 square metres for 20,000 visits + 2.5 square metres per extra 10,000 visits / year
Sister's Office	10 square metres

Medical Staff / Audit Office 13 square metres

Trolley / Wheelchair parking area 6 square metres for 20,000 visits
+ 2 square metres per extra 10,000 visits / year

Records store 8 square metres for 20,000 visits
+ 3 square metres per extra 10,000 visits / year

Supplies Storage space 30 square metres for 20,000 visits
+ 5 square metres per extra 10,000 visits / year

MAIN CLINICAL AREAS

Triage Bay 5 square metres

Resuscitation Area 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

Major treatment area 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

Minor treatment area 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

APPENDIX 2 SUPPORTING SPECIALTIES FOR AN ACCIDENT & EMERGENCY SERVICE

A *Comprehensive Accident & Emergency Service* 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.*

* If a department receives Paediatric Accident & 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.

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.
Cardiothoracic Surgery.
Oral & Maxillofacial Surgery.
Plastic Surgery (& Burns Unit).
Genitourinary Medicine.
Other Specialist Surgery e.g. Vascular Surgery, Urology etc.

The hospital should support an active Trauma Team and a Cardiac Arrest Team.

A *General Accident & Emergency Service* should have available to it as a minimum the following specialities 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 specialities:-

Gynaecology.
Paediatrics.
Acute Orthopaedics.
Psychiatry.
Ear, Nose & Throat.
Ophthalmology.
Care of the Elderly.
Neurosurgery and Neurology.
Obstetrics.
Cardiothoracic Surgery.
Oral and Maxillofacial Surgery.
Plastic Surgery (and Burns Unit).
Genitourinary Medicine.
Other specialist surgery e.g. Vascular Surgery, Urology etc.

The hospital should support an active Trauma Team and a Cardiac Arrest Team.