Chapter IX

EMERGENCY SERVICES

1. Introduction

The Accident and Emergency Department more commonly known as the casualty department is one of the most important part of a hospital. This department caters to emergency cases of accident and trauma. Emergency Service of a hospital is assuming increasing importance on account of the stresses of modern living in urban conditions where the people are subject to different types of accidents which require immediate attendance and medical care. With ever increasing tensions leading to cardio-vascular and cerebral diseases in the community, the pressure in the casualty and emergency wings of the Delhi hospitals is growing day by day. The utility of this service in each hospital also has been increasing steadily with the increasing awareness among the public, changing attitude of people towards hospital care and rising number of roadside accidents and other problems connected with urbanisation and industrialization.


four types of emergency care. 4

Type I Major emergency facilities including 24 hours specialist services in the hospital in addition to other 24 hours back up services.

Type II The basic emergency facility where the emergency room physician is located in the hospital with certain specialists on call duty.

Type III The standby emergency facility provided by a hospital with an emergency room, nurse and a physician on call duty.

Type IV A referral emergencyroom facility that has only one emergency nurse or an Auxiliary Nurse Midwife who after providing first-aid care transfers the cases to other facilities for extensive care and life support system.

2. The Accident and Emergency Department

In the Safdarjang Hospital there is a fairly large casualty department. But this service is not centralized for all emergency cases and the arrangement has been dispersed in several places.

The number of vehicles in Delhi is 1,287,000. During last year i.e. 1989, number of road accidents was 6,238. The ever rising population is one of the factors responsible for over-utilization of almost all the services being provided to the people. The complexity of problems in this department get compounded not only by the numerical load of patients but also by a large number of relations, visitors and attendants, naturally anxious in such times of stress.

The patients who are brought to the casualty department fall into four major categories:

- a) Acute medical emergencies including cases of heart attack.
- b) Acute surgical emergencies, many requiring immediate surgical intervention.
- c) Case of accident and trauma resulting from injuries etc.
- d) Poisoning, drowning & snake bite and other emergencies among children including cases of Eye, ENT, Obstetrics and Gynaecology, etc.

Different types of emergency care

The National Academy of Science (USA) has identified

a) The Casualty Department caters to all patients except maternity, orthopaedic, paediatric and burns and plastic surgery. Patients for these specialities have separate arrangement for emergency care in their own departments and the patients are directed to these places. However, all the medico-legal cases (MLC) are centrally registered.

b) Orthopaedic, Burns and Plastic surgery Departments have got separate OTs, Radiological and other investigation services.

c) Emergency maternity service is provided by the maternity emergency department situated on the ground floor of the maternity ward.

The main Accident and Emergency Department was studied in greater detail.

2.1 Physical Facilities

The department is located on one side within the campus near a separate entrance to the hospital from the Ring Road. The passage approaching the department opens into a big waiting hall which is connected to the casualty department. The passage approaching the emergency X-ray unit and both the emergency wards A and B is on the other side of the
entrance. The main casualty department has the following facilities:

i) **Doctors examination area**: Doctors on duty sit in this area around a table. Ambulatory patients sit around this table for registration and taking history. Non-ambulatory patients are straightway taken to one of the examination cubicles or observation beds. A separate table placed in this area is used for recording medical legal cases, registration etc.

ii) **Examination cubicles**: In the main hall, four examination cubicles are there for physical examination of the patients by the physicians and nurses on duty. These cubicles are independent cubicles with wooden partitions. There is an examination table in each cubicle.

iii) **Nursing Station**: The hall behind the doctors examination area partitioned by placing a number of cupboards, accommodates nurses' work area, injection room, minor O.T. This is the nurses' work area which functions for 24 hours a day. All the preparation for minor emergency treatment including minor surgical operations is done by the nurses on duty in this unit. There is an injection room attached to this area, where all the injections are prepared for these patients.
iv) **Minor O.T.** : A small operation theatre is established adjacent to the doctors examination area and nurses' station. Facilities are provided to carry out minor surgical operations like stitching a wound, removal of small foreign body etc.

v) **CMO Office** : A small office is established for a Chief Medical Officer in charge of this department in a cubicle next to the examination cubicles. This office is situated in a place which is easily accessible to the doctors' examination area, nurses' station, minor OT and observation bed area.

vi) **Observation bed area** : There are five beds placed in the space behind the nurses area. These beds are used for the patients who are kept only for observation for a short duration. In case a patient needs to be kept under observation for more than 2 hours he is admitted to one of the emergency wards.

vii) **CATS Room** : A small cubicle along with the cubicles for examination is established for Centralized Accident and Trauma Services (CATS). In the city of Delhi very recently the Centralized Service has been introduced. CATS is a scheme to provide First Aid beginning at the site and within the ambulances to accident victims. It provides for their speedy transportation to identified
hospitals through better communication. To start with the Director of All India Institute of Medical Sciences was the Director CATS. It is connected to all the major hospitals through wireless. Communication by public to control room is done at Telephone no.101. Operators are on duty for 24 hours in all the major hospitals who receive information transmitted by the control room on hot line and relate to the concerned emergency department. In each of these hospitals a unit is set-up to receive the message. It is managed by the homeguards. A pictorial presentation of the Scheme is placed at Fig. No.15.

viii) Police Constable Area: Near the waiting area - a place is given to the police constable who is posted for handling the medico-legal cases. A security guard from Hospital Security Staff is on duty round the clock.

ix) Emergency Wards: There are two emergency wards, Ward A and Ward B. Ward A is a medical ward. All the patients having emergency problems related to Medicine are admitted in this ward. There are 32 beds placed in this ward. There is a unit of 6 beds which is air conditioned. These beds are used mainly for the hyperpyrexia (very high fever) cases.

CATS SCHEME

PUBLIC

L.N.J.P. HOS
3314352
3310733 (Casualty)

SAFDARJUNG
664690
665060 (Casualty)

RAM MANOHAR LOHIA
312199
345525 (Casualty)

DEEN DAYAL UPADHYAYA
590650

HINDU RAO HOSPITAL
2524602

GURU TEG BAHADUR HOSP.
Enq. No. 2281864
2283345 Casualty

CONTROL ROOM
FIRE STATION
101

AMBULANCES EQUIPPED WITH WIRELESS

WIRELESS
HOT LINE

FIG: No. 15
In ward B there are 30 beds placed for Surgical emergency cases. 12 beds are in an air-conditioned room for the serious patients. Within the Ward B there is a separate minor operation theatre for the minor surgical intervention. There is also a catheterization unit in this ward which is basically a treatment room. An office for the sister in charge and a separate Doctor's room are also there. In the doctors' room, 3 beds are placed. The doctors on duty when free, may also relax there. There is a store which is also used as the changing room for the nurses who do not reside within the campus because they come in mufty from outside and then change into uniform.

x) X-ray Unit: An emergency x-ray plant is installed in this department. There are two machines, one of 200 MA and the other of 500 MA.

xi) ECG Unit: ECG unit is placed within emergency ward A. There are 4 ECG machines. ECG for all the inpatients are taken by this unit. This unit functions round the clock for 24 hours in 3 shifts.

For admitted patients the requisition is sent to the unit and technicians go to the respective ward and take the ECG. Layout of emergency department is given in Fig.16.
2.2 **Staffing**

Separate staff are posted in casualty unit, Ward A and Ward B.

**Medical Staff**

The Medical Officer in charge of this casualty unit is a chief medical officer. There are two regular medical officers. One of them is a senior medical officer (SMO) and the other general duty medical officer (GDMO). One senior resident and 2 junior residents are posted in casualty for 6 months at a time. They work in three following duty shifts:

- **Shift I** - 8.00 am - 2.00 pm
- **Shift II** - 2.00 am - 9.00 pm
- **Shift III** - 9.00 pm - 8.00 am

No medical officer is posted in casualty permanently but on rotation. Besides this medical manpower, the emergency department is managed by the medical officers of the particular unit which is supposed to cater to emergency cases for that day. The clinical department of Medicine has three units. The work is distributed among these three units for covering emergency cases. The distribution is done as follows:

- **Unit I** - Monday and Thursday
- **Units-II** Tuesday and Friday
- **Units-III** Wednesday and Saturday
Sunday is covered by each unit on rotation. The clinical department of surgery also has three units. The coverage of the work by these three units also follows the same pattern.

**Nursing and other staff**

<table>
<thead>
<tr>
<th>In casualty</th>
<th>Sister in charge</th>
<th>1</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Staff Nurse</td>
<td>11</td>
</tr>
<tr>
<td></td>
<td>Nursing orderly</td>
<td>5</td>
</tr>
<tr>
<td></td>
<td>Stretcher bearer</td>
<td>9</td>
</tr>
<tr>
<td></td>
<td>Safaiwala</td>
<td>5</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>In Ward A:</th>
<th>Sister incharge</th>
<th>1</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Staff nurse</td>
<td>12</td>
</tr>
<tr>
<td></td>
<td>Stretcher bearer</td>
<td>5</td>
</tr>
<tr>
<td></td>
<td>Safaiwala</td>
<td>5</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>In Ward B:</th>
<th>Sister incharge</th>
<th>1</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Staff nurses</td>
<td>12</td>
</tr>
<tr>
<td></td>
<td>Nursing orderly</td>
<td>5</td>
</tr>
<tr>
<td></td>
<td>Stretcher bearer</td>
<td>5</td>
</tr>
<tr>
<td></td>
<td>Safaiwala</td>
<td>5</td>
</tr>
</tbody>
</table>

They all work in 3 shifts except the sister-incharge.

The shifts are as follows:

- **Morning shift** - 7.30 am - 3.00 pm
- **Evening shift** - 3.00 pm - 9.00 pm
- **Night shift** - 9.00 pm - 7.30 am

Rotation of a staff nurse in every month is done in the following manner:

- Night duty for 8 days
- Morning duty for 9 days
- Evening duty for 6 days
- and Off Duty for 7 days
Technicians

For the department of Accident and Emergency there are four x-ray technicians:

2 are on morning duty
1 is on evening duty and
1 is on night duty

In ECG unit - There are seven ECG technicians to cover the whole day and night in 3 shifts.

- Morning shift 8.30 am - 2.30 pm
- Evening shift 2.30 pm - 8.30 pm
- Night duty 8.30 pm - 8.30 am

2.3 Equipments and Materials

All the special equipments required for minor surgeries like stitching, dressing, removal of foreign bodies etc. are given to each unit of this department. All the special trays required for diagnostic and therapeutic procedures are also available.

Suction machines, O₂ cylinders, are available. In case any patient becomes very serious he/she is transferred to Intensive Care Unit or Intensive Cardiac Care Unit. Sterile supply is provided in each shift of the day and as and when necessary. Other materials and medicines are supplied weekly
which are stored in each unit separately in a small store maintained by the sister-in-charge. In addition to this weekly supply if any medicine or material is required an emergency supply is made from the general store.

2.4 Procedure

Once a patient is brought into the casualty department the Medical Officer on duty examines him and assesses his condition on the basis of his need for medical and nursing attention. He is either sent to one of the emergency wards or put into observation unit. In ward A and ward B a patient is admitted for the maximum duration of 24 hours. Thereafter either he is discharged or transferred to the respective clinical department in the hospital. Everyday at 9.00 am the responsibility of unit for catering to emergencies, changes. So before 9.00 O'clock in the morning both these wards made absolutely vacant and prepared for the next unit.

Procedure for Brought Dead Patient

A form is filled by the Medical Officer on duty and the body is sent for post-mortem. If the cause of death is known, it is certified by the Medical Officer otherwise referred to municipal authority.
2.5 Recording

As soon as a patient enters the casualty, the doctor on duty register him/her. In the form the following information are entered:

- Name
- Age
- Sex
- Provisional Diagnosis
- Referred to the unit

For medicolegal cases a separate form is filled and the constable on duty is informed.

The following registers are also maintain by the nurses:

- An injection register including T.T.
- Death Register
- MLC transfer register
- A register for expendable items including medicines
- An observation register for those patients who are kept under observation in casualty unit

CATS Operator - maintains a register for the calls received.

2.6 Workload

In casualty about 300 patients report in each shift making a total of about 800 to 1000 patients everyday.
In Ward A:

In summer the total number of admission goes up to 110 or so. In winter it remains between 60-70.

In Ward B

The daily admission goes up to 60-70 patients.

The workload of this Accident and Emergency Department for the last 5 years is presented below:

<table>
<thead>
<tr>
<th>Year</th>
<th>Cases</th>
</tr>
</thead>
<tbody>
<tr>
<td>1984</td>
<td>1,29,250</td>
</tr>
<tr>
<td>1985</td>
<td>1,43,850</td>
</tr>
<tr>
<td>1986</td>
<td>1,49,007</td>
</tr>
<tr>
<td>1987</td>
<td>1,47,267</td>
</tr>
<tr>
<td>1988</td>
<td>1,69,892</td>
</tr>
</tbody>
</table>

3. Conclusions

Based on the detailed observations of the Emergency Department, informal discussions with the medical officers, nursing personnel and other paramedical staff and interview of the relatives, these conclusions are drawn.

Registration

In Safdarjung Hospital there is no separate registration counter for emergency cases. The patients directly go to the Medical Officer on duty in the casualty.
The Casualty Medical Officer makes the prescription slip, examines the patients, writes necessary medicines, injections and investigations to be done. He/she also fills the necessary forms for investigation and makes entries in the registers of the casualty department. Casualty medical officer is therefore burdened by the load of this clerical work which can easily be taken care of by a clerical staff so that the precious professional man-hours are not wasted.

At the time of discharge of those patients who are found fit to go home the prescriptions are handed over to them. And thus no record of the medical advice given to these patients is left with the hospital. Thus not only valuable clinical information gets lost it also create problems in the follow up of these patients. There is a clerk posted in the department who mainly does registration of those patients who are admitted to the wards from the casualty department. He also acts as an Enquiry clerk and is of very little help to the casualty medical officer.

Stretcher Bearer

Most patients coming to the casualty department are not in a position to walk up to the doctor. They need assistance and service of either a stretcher or wheel chair. It was observed that adequate number of stretchers, wheel chairs and stretcher bearerers was not available at the time when
required. Many a time the relatives who accompanied the patients carried the patients to the medical officer. Sometimes they could manage to find a wheelchair to take the patient themselves but would leave the wheelchair or trolley wherever they wished instead of returning it to the central place from where they took it. As a result, many of the stretchers, wheelchairs, trolleys are found lying here and there. Some of these articles were also found in unserviceable condition.

The number of stretcher bearers on duty was also found inadequate. Most of the time they would not wear uniform or identification badges and remained missing from the site. The stretcher service thus becomes almost non-operational.

Overcrowding

The number of beds in the emergency wards is not sufficient leading to overcrowding of the wards. On the contrary the five beds put in the casualty unit are seldom put to a proper use. The junior residents and casualty medical officers find it more convenient to dump all the patients to the emergency wards on the pretext of giving better care, leading overcrowding of both the emergency Ward A and Ward B.
Doctors on Duty

According to the conclusions made by the Government, 10 patients should be left per doctor for medical care in emergency department.

About two senior residents or CDMOs along with 2-3 junior residents are posted in each shift in the casualty department. The junior residents are fresh medical graduates and do not have much professional and administrative experience. The patients usually brought to this department are actually ill and invariably accompanied by at least two to three attendants. All of them are anxious and mentally disturbed. A calm atmosphere and a lot of patience of medical officers for dealing with these attendants and their patients is required which is not adequately found in this department. The number of doctors found present in each shift was also inadequate compared to the norm of doctor patient ratio of 1:10. This ratio is a rough indicator the actual number of doctors to be deployed depends upon the type of patients to be attended.

Nurses and Paramedical Staff

The nurse patient ratio for an emergency ward in a

hospital is recommended by the Government as 1:5 in each shift which demands the presence of 6.7 staff nurses at a time for a ward with 32 beds.

The number of nurses placed in each shift is not more than 3 to 5 at a time. This is definitely inadequate for a large number of patients. Giving injection and providing medicines prescribed by the medical officers is the only nursing care provided to these patients. Nursing care needs of these patients remain unattended. Some of the nursing procedures like giving enema, bed making etc. are delegated to the untrained personnel like ward boys and ayas. In short, nurses are not able to devote time to nursing care which is provided either by the attendants or by the wardboys and ayas which is one of the factors responsible for keeping the ward boys away from their own duties.

**Attendants and Visitors**

The large number of attendants and visitors were found running around the Accident and Emergency department at all times of the day and night. They not only add to the confusion within the department, interfere unnecessarily with the care of the patients but also contribute to the hospital infection and problems of security. Even though

7. Ibid., p.43.
Chowkidar have been posted in this department, they do not make any attempt to regulate the flow of visitors and attendants.

While the attendants create problems for the hospital, their own problems are also very significantly apparent. Even though there is a waiting hall and some benches are provided for the attendants, clean sanitary facilities are missing for these attendants. A drinking water cooler is provided in this hall.

Medico-Legal Cases

With the rising number of roadside accidents, terrorism and other problems connected with urbanisation and industrialisation the number of medicolegal cases reported to Safdarjang Hospital is increasing rapidly. These cases provide another dimension to the problem of overcrowding in this department. The diagnostic services viz., laboratory, Radiology and others are slow and often not upto the mark. Sometimes reports take long to reach the doctor particularly of X-rays.

Supply of Medicine

There is a perpetual shortage of essential medicines and other items. Most of the medicines are bought by the attendants from outside market. Items like Ryle's Tube,
Catheter, disposable syringes are also brought by the patients' attendant from the market particularly during emergency hours at night when the sister-in-charge is not on duty and sufficient amount of these items are not left outside. This not only causes inconvenience and annoyance to the relatives, it also result in delay of treatment of seriously ill patients and bring a bad name to the hospital.

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**Food Arrangements**

Patients admitted to the emergency wards are not provided with hospital food. Bread and milk is sometimes given to some exceptional cases but there is no satisfactory system for providing food to these patients.

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**Ambulance Services**

There are only three Ambulances and one Hearse van available to cater the needs of emergency cases in this hospital under 102 Telephone Number which is grossly inadequate. Over and above, the maintenance of these vehicles is very poor which keeps these off the road very often. The stretcher provided in each ambulance should be covered with a fresh laundered bed sheet which is also either missing or not changed after shifting each patient.
Disposal of Dead Bodies

The respectful disposal of dead bodies in the emergency department is an important function of this department. The relations and friends go into such emotional shock and are under stress that at times it becomes difficult for them to accept the fact. Tactful handling by the medical and nursing staff of the relations in this sort of situation is very important. All the arrangements for the disposal of the body respectfully without the least offence to the relations should be done in this department.

Sometimes due to lack of adequate experience and empathy some of the staff take this matter very easy and do not pay due attention to the feelings of the relatives.

Specialist service in the Emergency Department

There is no need for the specialist to be always present in this department as the general duty medical officers handle the basic requirement and screen the patients who need a particular specialist consultancy. But from each discipline a specialist is always available on call and come to this department as and when necessary. But it should be made clear to them that they should consider themselves as a part of the team actually functioning in the casualty department. This feeling is practically non-
existent among the specialists and rather they treat themselves as a guest to the department and leave the juniors to handle the patients. Even though it is not necessary for the consultant to be actually present all the time but frequent visits made by them to this department would boost the morale and confidence of the junior doctors on duty. It would also help them to improve their efficiency in handling emergency cases.