DISTRICT GOVERNMENT
GENERAL HOSPITAL –
AT-WORK
This chapter describes the working of the District Government General Hospital, Anantapur. It also gives the aspects of hospital services in this selected area.

The services provided in a hospital differ from one hospital to another. It is somewhat difficult to discuss all these services here. All these services are grouped into three categories – (1) Line Services, (2) Staff Services, and (3) Auxiliary Services. These are explained with the help of a Chart 4.3. Let us discuss some of these services to understand the mechanics of hospital administration.

Line Services can be divided into (1) Out-Patient Services, (2) In-Patient Services, (3) Intensive Care Unit Services, (4) Emergency Services (Casualty Services), and Operation Theatres Services.

Staff Services also can be studied into (1) Central Sterile Supply Services, (2) Dietary Services, (3) Pharmacy Services, (4) Laundry Services, (5) Laboratory Services, (6) Radiology Services and (7) Nursing Services.
ASPECTS OF HOSPITAL SERVICES

CHART 4.3

STAFF FUNCTIONS

SUPPORTIVE SERVICES

Blood Bank
Diet
Central Sterilization
Nursing Services
Laboratory and X-Ray
Laundry
Pharmacy

Outdoor

PATIENT

Indoor

Operation
Intensive Unit
Emergency

Day Care Centre
Transport
Engineering Dept.
Stores
Mortuary

Registration of indoor & outdoor case records

HOUSE KEEPING OR DOMESTIC SERVICES

AUXILIARY FUNCTION

Source: Park's Text Book of Preventive and Social Medicine, p.17.
Auxiliary Services can also be divided into (1) Registration and Indoor Case Record Services, (2) Stores, (3) Transport Services, and (4) Mortuary Services. Besides, there are Dietary Services, Engineering and Maintenance Services, and Hospital Security Services. Let us study all these services in detail.

OUT-PATIENT SERVICES

The relative shortage of hospital beds and rising cost of hospital care force hospital authorities to keep hospitalization of patients down to the minimum with the help of outpatient services (OPDs). It is explained in the Table 4.1. Outpatient services are required to meet the growing health needs of the people through health education, prevention, early diagnosis, case finding, better diagnostic and therapeutic procedures, rehabilitation and follow-up, all of which are a challenge to sound planning and good administration of the OPD. It is seen in the Chart 4.2.

Good outpatient services constitute one of the most important elements of a good hospital. This is the first place where the sick and their relatives come in direct contact with the hospital and its staff. The care and attention provided to them goes a long way in building up the confidence of the people in the hospital. The staff working here
<table>
<thead>
<tr>
<th>S. No.</th>
<th>Facility</th>
<th>25-50 Bedded</th>
<th>51-100 Bedded</th>
<th>101-300 Bedded</th>
<th>301-500 Bedded</th>
<th>501-750 Bedded</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>No. of rooms</td>
<td>Area (m²)</td>
<td>No. of rooms</td>
<td>Area (m²)</td>
<td>No. of rooms</td>
<td>Area (m²)</td>
</tr>
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<td>1</td>
<td>General Category</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>a</td>
<td>Entrance hall with enquiry counter, cash counter and record area</td>
<td>1 28</td>
<td>1 56</td>
<td>1 98</td>
<td>1 126</td>
<td>1 154</td>
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<tr>
<td>b</td>
<td>Room with toilet for Officer-in-charge</td>
<td>1 17.5</td>
<td>1 17.5</td>
<td>1 17.5</td>
<td>1 17.5</td>
<td>1 17.5</td>
</tr>
<tr>
<td>c</td>
<td>Room with toilet for Nurse-in-charge</td>
<td>- - - - - -</td>
<td>- - - - - -</td>
<td>- - - - - -</td>
<td>- - - - - -</td>
<td>- - - - - -</td>
</tr>
<tr>
<td>d</td>
<td>Sanitary Inspector's room</td>
<td>- - - - - -</td>
<td>- - - - - -</td>
<td>- - - - - -</td>
<td>- - - - - -</td>
<td>- - - - - -</td>
</tr>
<tr>
<td>e</td>
<td>Key room (Security)</td>
<td>- - - - - -</td>
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<td>- - - - - -</td>
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</tr>
<tr>
<td>f</td>
<td>OPD medical record room</td>
<td>- - - - - -</td>
<td>- - - - - -</td>
<td>- - - - - -</td>
<td>- - - - - -</td>
<td>- - - - - -</td>
</tr>
<tr>
<td>g</td>
<td>Canteen</td>
<td>1 14</td>
<td>1 17.5</td>
<td>1 28</td>
<td>1 35</td>
<td>1 49</td>
</tr>
<tr>
<td>h</td>
<td>Lavatories - separate for gents and ladies (common for patients and staff)</td>
<td>2 17.5</td>
<td>2 28</td>
<td>2 35</td>
<td>2 42</td>
<td>2 49</td>
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<tr>
<td>i</td>
<td>Janitor's closet</td>
<td>1 3.5</td>
<td>1 3.5</td>
<td>1 7</td>
<td>1 7</td>
<td>1 10.5</td>
</tr>
<tr>
<td>2</td>
<td>Medical Clinic</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>a</td>
<td>Consultation and examination room</td>
<td>1 17.5</td>
<td>2 17.5</td>
<td>3 17.5</td>
<td>4 17.5</td>
<td>4 to 8 17.5</td>
</tr>
<tr>
<td>b</td>
<td>Cardiographic examination</td>
<td>1 10.5</td>
<td>1 10.5</td>
<td>1 14</td>
<td>1 17.5</td>
<td>1 17.5</td>
</tr>
<tr>
<td>c</td>
<td>Waiting room</td>
<td>1 21</td>
<td>1 35</td>
<td>1 49</td>
<td>1 63</td>
<td>1 84</td>
</tr>
<tr>
<td>3</td>
<td>Surgical Clinic</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>a</td>
<td>Consultation and examination room</td>
<td>1 17.5</td>
<td>2 17.5</td>
<td>3 17.5</td>
<td>4 17.5</td>
<td>4 to 6 17.5</td>
</tr>
<tr>
<td>b</td>
<td>Treatment and dressing room / minor surgery*</td>
<td>1 10.5</td>
<td>1 10.5</td>
<td>1 14</td>
<td>1 28</td>
<td>1 35</td>
</tr>
<tr>
<td>c</td>
<td>Waiting room* (301-500 bedded and 501-750 bedded)</td>
<td>1 21</td>
<td>1 35</td>
<td>1 49</td>
<td>1 63</td>
<td>1 84</td>
</tr>
<tr>
<td>4</td>
<td>Orthopaedic Clinic</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>a</td>
<td>Consultation and examination room</td>
<td>1 17.5</td>
<td>1 17.5</td>
<td>2 17.5</td>
<td>2 to 3 17.5</td>
<td>1 17.5</td>
</tr>
<tr>
<td>b</td>
<td>Plaster and splint storage room</td>
<td>- - - - - -</td>
<td>- - - - - -</td>
<td>- - - - - -</td>
<td>- - - - - -</td>
<td>- - - - - -</td>
</tr>
<tr>
<td>c</td>
<td>Fracture and treatment room</td>
<td>- - - - - -</td>
<td>- - - - - -</td>
<td>- - - - - -</td>
<td>- - - - - -</td>
<td>- - - - - -</td>
</tr>
<tr>
<td>d</td>
<td>Plaster cutting room</td>
<td>- - - - - -</td>
<td>- - - - - -</td>
<td>- - - - - -</td>
<td>- - - - - -</td>
<td>- - - - - -</td>
</tr>
<tr>
<td>e</td>
<td>Recovery room</td>
<td>- - - - - -</td>
<td>- - - - - -</td>
<td>- - - - - -</td>
<td>- - - - - -</td>
<td>- - - - - -</td>
</tr>
<tr>
<td>f</td>
<td>Waiting room</td>
<td>- - - - - -</td>
<td>- - - - - -</td>
<td>- - - - - -</td>
<td>- - - - - -</td>
<td>- - - - - -</td>
</tr>
<tr>
<td>5</td>
<td>Eye Clinic</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>a</td>
<td>Consultation and examination and refraction room</td>
<td>1 17.5</td>
<td>1 28</td>
<td>1 28</td>
<td>1 28</td>
<td>1 28</td>
</tr>
<tr>
<td>b</td>
<td>Minor surgery and treatment room</td>
<td>1 17.5</td>
<td>1 17.5</td>
<td>1 17.5</td>
<td>1 17.5</td>
<td>1 17.5</td>
</tr>
<tr>
<td>c</td>
<td>Orthoptic-cum-</td>
<td>- - - - - -</td>
<td>- - - - - -</td>
<td>- - - - - -</td>
<td>- - - - - -</td>
<td>- - - - - -</td>
</tr>
<tr>
<td>d</td>
<td>Dark room</td>
<td>- - - - - -</td>
<td>- - - - - -</td>
<td>- - - - - -</td>
<td>- - - - - -</td>
<td>- - - - - -</td>
</tr>
<tr>
<td>e</td>
<td>Waiting room</td>
<td>1 14</td>
<td>1 14</td>
<td>1 21</td>
<td>1 28</td>
<td>1 42</td>
</tr>
</tbody>
</table>
### ENT Clinic

<table>
<thead>
<tr>
<th>Room Type</th>
<th>To be shared in common with eye clinic</th>
</tr>
</thead>
<tbody>
<tr>
<td>Consultation and examination room</td>
<td>1</td>
</tr>
<tr>
<td>Treatment room</td>
<td>1</td>
</tr>
<tr>
<td>Audometry room</td>
<td>-</td>
</tr>
<tr>
<td>Electronystagmography room</td>
<td>-</td>
</tr>
<tr>
<td>Waiting room</td>
<td>1</td>
</tr>
</tbody>
</table>

### Dental Clinic

<table>
<thead>
<tr>
<th>Room Type</th>
<th>To be shared in common with eye clinic</th>
</tr>
</thead>
<tbody>
<tr>
<td>Consultation and examination room</td>
<td>1</td>
</tr>
<tr>
<td>Dental hygienist's room</td>
<td>1</td>
</tr>
<tr>
<td>Recovery room</td>
<td>-</td>
</tr>
<tr>
<td>Dental Workshop</td>
<td>-</td>
</tr>
<tr>
<td>Processing room for X-ray</td>
<td>-</td>
</tr>
<tr>
<td>Waiting room</td>
<td>1</td>
</tr>
</tbody>
</table>

### Obstetric and Gynaecological Clinic

<table>
<thead>
<tr>
<th>Room Type</th>
<th>To be shared in common with eye clinic</th>
</tr>
</thead>
<tbody>
<tr>
<td>Reception and registration area</td>
<td>1</td>
</tr>
<tr>
<td>Consultation and examination room</td>
<td>1</td>
</tr>
<tr>
<td>Treatment room</td>
<td>1</td>
</tr>
<tr>
<td>Clinical laboratory</td>
<td>1</td>
</tr>
<tr>
<td>Toilet-cum-changing room (attached to treatment)</td>
<td>1</td>
</tr>
<tr>
<td>Mother's craft demonstration room</td>
<td>-</td>
</tr>
<tr>
<td>Waiting room</td>
<td>1</td>
</tr>
</tbody>
</table>

### Family Planning Room

<table>
<thead>
<tr>
<th>Room Type</th>
<th>To be shared in common with eye clinic</th>
</tr>
</thead>
<tbody>
<tr>
<td>Consultation and examination room</td>
<td>1</td>
</tr>
<tr>
<td>Treatment room</td>
<td>1</td>
</tr>
<tr>
<td>Health educator and social worker's room</td>
<td></td>
</tr>
<tr>
<td>Recovery room</td>
<td>-</td>
</tr>
<tr>
<td>Waiting room</td>
<td>1</td>
</tr>
</tbody>
</table>

### Paediatric Clinic

<table>
<thead>
<tr>
<th>Room Type</th>
<th>To be shared in common with eye clinic</th>
</tr>
</thead>
<tbody>
<tr>
<td>Consultation and examination room</td>
<td>1</td>
</tr>
<tr>
<td>Dressing treatment and dispensing room</td>
<td>1</td>
</tr>
<tr>
<td>Therapy room</td>
<td>-</td>
</tr>
<tr>
<td>Immunization room</td>
<td>1</td>
</tr>
<tr>
<td>Recreation and playroom</td>
<td>-</td>
</tr>
<tr>
<td>Waiting room</td>
<td>1</td>
</tr>
</tbody>
</table>
**Skin & STD Clinic**

| a | Consultation and examination room | - | - | - | - | 1 | 17.5 | 2 | 17.5 | 2 | 17.5 |
| b | Treatment room | - | - | - | - | 2 | 17.5 | 3 | 17.5 | 3 | 17.5 |
| c | Biopsy room | - | - | - | - | - | - | - | 1 | 10.5 | 1 | 10.5 |
| d | Superficial therapy room | - | - | - | - | 1 | 14 | 1 | 17.5 | 1 | 17.5 |
| e | Skin laboratory | - | - | - | - | 1 | 21 | 1 | 28 | 1 | 28 |
| f | Barber's room | - | - | - | - | - | - | - | 1 | 7 | 1 | 7 |
| g | Waiting room | - | - | - | - | 1 | 21 | 1 | 28 | 1 | 35 |

**Psychiatric Clinic**

| a | Consultation and examination room | - | - | - | - | 1 | 17.5 | 2 | 17.5 | 2 | 17.5 |
| b | ECT room | - | - | - | - | 1 | 21 | 1 | 17.5 | 1 | 17.5 |
| c | Recovery room | - | - | - | - | 1 | 17.5 | 1 | 17.5 | 1 | 17.5 |
| d | Psychologist's room | - | - | - | - | 1 | 17.5 | 1 | 17.5 | 1 | 17.5 |
| e | Social worker's room | - | - | - | - | 1 | 17.5 | 1 | 17.5 | 1 | 17.5 |
| f | Electro-encephalography room | - | - | - | - | - | - | - | 1 | 17.5 |
| g | Occupational therapy room | - | - | - | - | - | - | - | 1 | 28 |
| h | Waiting room | - | - | - | - | 1 | 21 | 1 | 28 | 1 | 35 |

**Supporting Facilities**

| a | Central injection room | 1 | 14 | 1 | 14 | 1 | 14 | 1 | 17.5 | 1 | 21 |
| b | Specimen collection room | 1 | 14 | 1 | 17.5 | 1 | 17.5 | 1 | 17.5 | 1 | 21 |
| c | Clinical laboratory | 1 | 14 | 1 | 17.5 | 1 | 17.5 | 1 | 17.5 | 1 | 21 |
| d | Social worker's room | - | - | - | - | 1 | 14 | 1 | 17.5 | 1 | 17.5 |
| e | Waiting room | 1 | 10.5 | 1 | 14 | 1 | 21 | 1 | 28 | 1 | 35 |

Note: An attached toilet of 3.5m² comprising WC and wash basin shall be provided for a pair of consultation and examination rooms in each of the clinics.

Wherever 'with toilet' is mentioned it is to be 3.5 m² inclusive in the total requirements of the room.

* Lavatory facilities shall be provided at convenient places in the general OPD and common to a number of clinics, depending upon utility value.

Floor areas would be suitably subdivided to this effect. For number of fittings.

CHART 4.2

PROCEDURE OF AN O.P.D.

REGISTRATION

WAITING AND EXAMINATION

Prescription of Medicine

Investigation

Dressing and Treatment

Admission to In-Patient Ward & Treatment

X-Ray

Laboratory

Reports of Tests

Discharged

Source: Goel's History of Administration
should be aware of the difficulties and limitations of their hospital and politely explain to the patients the reasons for minor delays and discomforts that are bound to arise. It is explained with the help of a Chart 4.1.

**Functions**

The functions of outpatient services are to provide diagnostic, curative, preventive and rehabilitative services on an ambulatory basis to the community. The main functions are¹:

- Early diagnosis, using the best possible modern/medical techniques, including prophylactic examinations for the detection of undiagnosed diseases.
- Ambulatory and domiciliary treatment of all cases which can be treated at the clinic or at home.
- Admission or referral to the hospital of those patients who need it.
- After-care and medical rehabilitation after discharge from hospital.
- Promotion of health through health education.
- Use of outpatient facilities for the training of medical and nursing students.
- Record-keeping and collection of data for epidemiological and social research and periodic assessment of medical work (medical audit).

¹91
CHART 4.1
PROCEDURE IN AN EMERGENCY SERVICE

RECEPTION AND ENQUIRY

REGISTRATION

EXAMINATION

ADMISSION

KEEPING UNDER OBSERVATION

DRESSING

DISCHARGED
i.e., RESTORED TO NORMAL HEALTH OR DEATH

Source: S.L. Goel's History of Administration
The out-patient department is one of the most important departments. All the patients suffering from diseases of minor, serious, acute and chronic nature are examined.

Planning

The size of the OPD depends upon the volume of attendance, the clinics provided and the extent of other facilities such as laboratory, blood bank, health education programme, operating facilities and emergency wards. The size of the OPD also depends on the land available and the location of the hospital. It is observed in the Chart 4.4. The guidelines is 0.66 sq ft per annual OPD attendance. This is inclusive of corridors, waiting area and parking space.

Old patients will be sent directly to the appropriate clinical department. New patients will be directed to the registration desk where records will be completed before they are sent on to the relevant clinical departments.

The area and the number of registration desks will vary with the patient load, one desk should be able to handle 12-30 patients per hour.

It is noted from the clinical statistics, Government General Hospital, Anantapur, the enrollment of the out-patients during the
CHART 4.4

OUTPATIENT RELATIONSHIP

Entrance

- Out-patient Department
  - Waiting Hall
  - Registration
  - Examination Room
  - X-ray Unit
  - Laboratory
  - Pharmacy
  - Injection Room
  - Exit

Inpatient Department

Source: Goel's Hospital Administration
period 2002-03 was 3,77,466. Out of them 1,31,642 was old cases and the 2,45,804 was come under new cases. During the period of 2003-04 the total out-patient cases were 3,74,956. Out of them old cases were 1,38,386 and 2,36,070 were new cases. 3,61,465 out-patients were in the period 2004-05 in the hospital. The old cases were 1,29,728 whereas 2,31,737 were new cases. 2

INPATIENT SERVICES

Inpatients services are the most important in the hospital-based health care delivery system. They account for approximately 35%-50% of the hospital complex and form the largest single component of the hospital.

Inpatient hospital services are under constant pressure of increasing demand and their capital and operational costs are, very high, which directly affects the hospital. Hospital Administrators should be fully aware of cost-intensive nature of inpatient services and insist on effective planning and efficient utilization. It is described in the Chart 4.5.

The prime objective of inpatient services is to provide accommodation for patients at the point in an illness when dependence on others is highest. Because of this, they are (with the
CHART 4.5

ARRANGEMENT OF WARDS FOR HORIZONTAL AND VERTICAL CIRCULATION

**Horizontal Circulation**

<table>
<thead>
<tr>
<th>1 or 2 floors</th>
<th>Wards</th>
<th>Future wards</th>
</tr>
</thead>
<tbody>
<tr>
<td>1 or 2 floors</td>
<td>Wards</td>
<td></td>
</tr>
<tr>
<td>1 or 2 floors</td>
<td>Other Depts.</td>
<td>Other Depts.</td>
</tr>
<tr>
<td></td>
<td>Out-patient department, administration</td>
<td></td>
</tr>
</tbody>
</table>

**Vertical Circulation**

Multi-storey block

<table>
<thead>
<tr>
<th>Ward block</th>
<th>Vertical Circulation bank lifts etc</th>
</tr>
</thead>
<tbody>
<tr>
<td>Low block</td>
<td>Other Departments</td>
</tr>
<tr>
<td>Low block</td>
<td>Other Departments</td>
</tr>
<tr>
<td>Low block</td>
<td>Other Departments</td>
</tr>
</tbody>
</table>

Source: Llewellyn-Davies and Macaulay, Hospital Planning and Administration, 1995.
emergency department) the only areas in continuous operation day and night for patient-related activities. The inpatient care area, ward or nursing unit would thus include a nursing station, the beds it serves and the necessary work, storage and public areas needed to carry out nursing care.

Inpatient care units are grouped as follows:

- **General Wards**: These wards are of the traditional type and have patients who are not critically ill but need continuous care or observation and have to be in bed. These include wards for the disciplines of medicine, surgery, ENT and ophthalmology.

- **Speciality Wards**: These wards are for patients who need hospitalization in particular specialties such as orthopaedics, paediatrics, psychiatry, infectious diseases, skin, obstetrics and gynaecology, and other specialized disciplines.

- **Intensive Care Units**: These wards are for critically ill patients.

**Functions**

Every inpatient nursing unit should be designed in such a way that it can be built and operated at the lowest possible cost and, at the same time, achieve the functional goals of the unit which are to:

- Provide the highest possible quality of medical and nursing care to patients.
• Provide necessary equipment, essential drugs and all other requirements for patient care in an organized manner in the ward.

• Furnish the most desirable environment for patients, accommodating all their basic needs.

• Provide facilities for visitors and attendants.

• Provide the highest degree of job satisfaction for the nursing and medical staff and the opportunity for training and research.

From the Reports it is noted that there were 46,800 in-patients during the period of 2002-03. The total in-patients were 47,463 in the year 2003-04. There were 48,523 in-patients for the period of 2004-2005.4

INTENSIVE CARE UNITS (ICUs)

Intensive care is one of the important aspects of critical care medicine. It includes resuscitation, emergency care for life-threatening conditions and intensive nursing care. In hospitals, such care is provided in Intensive Care Units (ICUs). The ICUs usually accommodate a limited number of patients who are either in a critical state or require specialized care and equipment for observation, signaling, recording and measuring physiological function.5 It is seen in Tale 4.2.
TABLE 4.2

FLOOR AREAS OF WARD ANCILLARIES IN THE ICU
(applicable only in C.D. and E categories of hospitals)

<table>
<thead>
<tr>
<th>Facility</th>
<th>No. of Rooms</th>
<th>Area (m²)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Waiting area for relatives of patients</td>
<td>1</td>
<td>17.5</td>
</tr>
<tr>
<td>Nurses' station with toilet</td>
<td>1</td>
<td>17.5</td>
</tr>
<tr>
<td>Doctor's room with toilet</td>
<td>1</td>
<td>17.5</td>
</tr>
<tr>
<td>Intensive Care Laboratory</td>
<td>1</td>
<td>14</td>
</tr>
<tr>
<td>Equipment room</td>
<td>1</td>
<td>14</td>
</tr>
<tr>
<td>Stores</td>
<td>2</td>
<td>14</td>
</tr>
<tr>
<td>Pantry</td>
<td>1</td>
<td>10.5</td>
</tr>
<tr>
<td>Switch room</td>
<td>1</td>
<td>10.5</td>
</tr>
<tr>
<td>Trolley bay</td>
<td>1</td>
<td>10.5</td>
</tr>
<tr>
<td>Sluice room</td>
<td>1</td>
<td>10.5</td>
</tr>
<tr>
<td>Janitor's closet</td>
<td>1</td>
<td>3.5</td>
</tr>
</tbody>
</table>

Note: This ward should have provision for piped oxygen, nitrous oxide and suction facility. Wherever 'with toilet' is mentioned, the area includes 3.5 m² required for the toilet.

The aim of the ICU is to first give life support to a patient or prevent threat to life and then treat the underlying cause with high standard of nursing care and treatment.

ICU a facility with more space, staff and equipment for patient care that cannot be provided in ordinary wards.

a service which provides continuous observation of the vital functions and can support these functions more promptly and efficiently than could be done elsewhere in a hospital.

Types of ICU

Single discipline (decentralized) ICU: Cardiac Care Unit, ICU, Neonatal ICU, Burns Care Centre.

Multidisciplinary (centralized) ICU: These usually include medical and surgical Paediatric ICUs or a combination of decentralized Neurosurgery ICUs.

Planning and Design Considerations

The ICU should be a physically and functionally distinct entity within the hospital. Access to it should be controlled to prevent hospital infection by regulating traffic including visitors. Floor areas
of ward ancillaries in the ICU for C, D and E categories of hospitals are given in Table 4.2.

**EMERGENCY MEDICAL SERVICES (EMS)**

Medical emergency is a situation in which a patient requires urgent and high quality medical care. Due to increase in vehicular traffic and rapid industrialization, the number of accidents and emergency situations is fast increasing. Emergency Medical Services (EMS) are, therefore, an important aspect of acute medical care provided by the emergency (casualty) department of the hospital. It serves the community 24 hours a day throughout the year. It is observed in Chart 4.6.

In large hospitals there should be a separate independent department providing EMS as the dependent population is larger and concentrated.

- Categories C, D and E hospitals – it should be an independent department preferably working round the clock like a mini hospital.
- Categories A and B hospitals – it should preferably be an independent department scheduled to function outside working hours of other clinics in the OPD for easy accessibility and sharing medical facilities with the OPD.

201
CHART 4.6

STAGES THROUGH WHICH A PATIENT MAY PASS IN AN ACCIDENT AND EMERGENCY DEPARTMENT

Seriously injured patients

Ambulant patients

Stage 1

Resuscitation

Examination, Diagnosis and Preliminary treatment (including diagnostic X-ray facilities)

Stage 2

Further treatment (operation theatres, plaster rooms, recovery beds)

Stage 3

Transfer (admitted as an inpatient; referred to the outpatient department, another hospital, discharge house, general practitioner, taken to the mortuary)

Stage 4

Source: Sharma, D.K. AIIMS, 1991
Essential Requirements of EMS

- It must be efficient and effective at all times and for all purposes for which it is meant as the condition of patients deteriorates very fast from the time of accident.

- It must be on the right cost-benefit basis.

Efficient EMS should have

- Speedy transportation of the victim to the emergency centre (Chart 4.6).

- Pre-hospital therapy in the form of immediate first aid and registration, starting from the site of accident.

- Prompt and quick service with an efficient and foolproof communication system.

- Adequate physical facilities, equipment and stores.

- Alert, well-trained and sympathetic staff who can render immediate and appropriate life-saving treatment and also meet the emotional requirements of the patient and his attendants.

Subsidiary Functions of the Accident and Emergency Department

- Collection of casualties.

- Information centre – to render advice on telephone or in person for simple medical queries.
• Establish a reception centre in case of a disaster.
• Liaison with police in medico-legal cases.
• Education, training and research activities.

During the period of 2002-03 the total emergency cases were 30,883, 36,866 cases in 2003-04, 31,391 cases during the period of 2004-05.7

OPERATION THEATRE UNIT

In a hospital, about 50% to 60% of inpatients require surgical treatment. The number of patients needing surgical interventions is increasing because of the following factors:

• Introduction of better diagnostic facilities which lead to correct and prompt diagnosis;

• Introduction of new, safer antibiotics;

• Introduction of new surgical techniques and procedures which make surgery possible irrespective of age, type or degree of sickness;

• Introduction of new disciplines such as vascular surgery, vascular radiology, foetal surgery, organ transplantation, etc;

• Increasing awareness and thus diminishing apprehension regarding surgery among people;

• Better understanding of aseptic procedures and techniques.
The operating theatre (OT) unit is an area where a team of surgeons, anaesthetists, nurses and sometimes pathologists and radiologists operate upon or care for patients. Detailed scientific planning is imperative while designing an OT to ensure its effective utilization, efficiency and smooth functioning. It is followed in Table 4.3.

Objectives of Planning

An OT should have:

- a high standard of asepsis
- maximum standards of safety for patients and staff from environmental, anaesthetic, radiological and postoperative hazards
- optimum utilization of space and staff-time
- optimum conditions of work for the surgical team
- comfortable treatment of patients
- allow more flexibility of use by individual OTs.

For optimum utilization of operating units, OTs, as a rule, should not be reserved rigidly for use by a particular department. Operation theatres should be similar in design and character to make it easy for all surgeons and nurses to use them without the necessity of familiarizing themselves every time with a new set of conditions.
### TABLE 4.3

**PROVISION FOR VARIOUS FLOOR AREAS IN THE OPERATION THEATRE DEPARTMENT**

<table>
<thead>
<tr>
<th>S. No.</th>
<th>Facility</th>
<th>No. of Rooms</th>
<th>Area (m²)</th>
<th>No. of Areas</th>
<th>Area (m²)</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>OT Reception bay</td>
<td>1</td>
<td>10.5</td>
<td>1</td>
<td>10.5</td>
</tr>
<tr>
<td>2</td>
<td>Waiting room for relatives (including 2 toilets of 3.5 m² each)</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td>3</td>
<td>Room with toilet for Officer-in-charge of OT</td>
<td>1</td>
<td>17.5</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td>4</td>
<td>Doctor's changing room</td>
<td>-</td>
<td>17.5</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td>5</td>
<td>Nurses' changing room</td>
<td>1</td>
<td>17.5</td>
<td>1</td>
<td>17.5</td>
</tr>
<tr>
<td>6</td>
<td>Technicians' changing-room</td>
<td>-</td>
<td>17.5</td>
<td>-</td>
<td>17.5</td>
</tr>
<tr>
<td>7</td>
<td>Class IV staff changing-room</td>
<td>-</td>
<td>17.5</td>
<td>-</td>
<td>17.5</td>
</tr>
<tr>
<td>8</td>
<td>Sterile storage area</td>
<td>1</td>
<td>10.5</td>
<td>1</td>
<td>10.5</td>
</tr>
<tr>
<td>9</td>
<td>Instrument and linen room</td>
<td>-</td>
<td>17.5</td>
<td>-</td>
<td>17.5</td>
</tr>
<tr>
<td>10</td>
<td>Trolley bay</td>
<td>-</td>
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</tr>
</tbody>
</table>

A thorough study and analysis of the above criteria are a prerequisite for planning, which will decide the policies for the organization and management of the department.

During the period of 2002-03, the total surgical cases during the period of 2002-03 were 7,011. Out of them, the total major cases were 3,969 whereas the minor cases were 3,042. During the period of 2003-04, in this operation theatre, the total operation cases were 4,338 were major cases and 2,795 minor cases. The total operated cases in this hospital were 5,107 including major and minor cases.9

CENTRAL STERILE SUPPLY DEPARTMENT (CSSD)

The Central Sterile Supply Department (CSSD) of a hospital receives, stores, processes, controls and distributes professional supplies and equipment (both sterile and non-sterile) to all departments of the hospital for the care and safety of patients. It is customary not to include diet, medicine, laundry, and supply of blood and crystalloids in the CSSD. However, the type of supply varies from place to place and hospital to hospital, depending on the resources of the hospital and needs of the departments served.
Aims and Scope

In general, the aims of the CSSD are to:

- Promote and provide an efficient, economic and uniform source of sterile and non-sterile supply of equipment as required for the care and treatment of the sick.
- Provide valuable assistance to the purchase department in the selection of goods and new products by pre-testing.
- Advise the standardization department by testing efficiency of new products as a quality control measure.
- Supply equipment to highly specialized units.
- Organize an efficient maintenance and repair service for all equipment handled in the hospital and so on.

DIETARY SERVICES

Good food is important in the treatment of the patient and is a part of his total care. The food offered to the patient should have variety, be well prepared and served attractively.

The Dietary Service Department (DSD) of a hospital has the responsibility of preparing nutritionally adequate meals for patients at a cost consistent with the policies of the hospital. It is seen in Chart 4.7.
CHART 4.7
FUNCTIONAL CHART OF DIETARY SERVICES

Director of Superintendent

Dietician

Clinical functions
Therapeutic food
Menu planning services to all patients

Administrative functions
Purchase and store
Menu Planning
House-keeping, sanitation and General Supervision

Educational functions
Teaching
Research
Nutrition clinics
Trainee dietician
Medical students
Nurses

Diet Therapy
OPD Administration
Community nutrition

General Training Supervision Policies Records Work services

Source: Cedric B. Finch and Sharma, 'Hospital Planning and Management, p.147.
As dietary services account for one-fifth of the total cost of hospital maintenance, serious consideration should be given to:

- proper planning of facilities, organization, staffing under competent supervision.
- Orientation and training of food workers about cleanliness and service;
- Acceptable methods of food purchase, handling, preparation and service.

The objective of the dietary services should be to provide optimum nutrition in a scientific, sanitary and aesthetic manner at minimum cost.

**Functions**

Functions of the dietary services department include:

- Selection and purchase of food working closely with the purchasing agent.
- Receipt and storage, and preparation and distribution of food.
- Cleanliness in the department and dish-washing.
- Menu planning including special diets, and the purchase of dietary supplies other than food and others.
1. Staffing

The dietary department is as one of the major departments of the hospital, and is headed by a specialist – the dietician.

2. Role of the Dietician

The department should be headed by a trained dietician who will report directly to the Hospital Administrator / Medical Superintendent (Chart 4.7). He / she must work closely with the medical staff in preparing the patient’s diet. The Sample Diet Sheet is seen in Table 4.4.

He / she should coordinate dietary activities with nursing and housekeeping activities. Another important aspect is working out meal charges with the finance department.

The Muralidhar Committee recommends employment of qualified dieticians in all hospitals of over 20 beds.11

The dietician should have adequate technical and administrative knowledge and the ability to perform clinical, administrative and educational functions. He / she should be able to organize the staff and their work to produce the best possible results at minimum cost.
### SAMPLE DIET SHEET

<table>
<thead>
<tr>
<th>No. of beds</th>
<th>Veg. Diet</th>
<th>Meat Diet</th>
<th>Milk Diet</th>
<th>Khichri Diet</th>
<th>Curd</th>
<th>Eggs</th>
<th>Lime</th>
<th>Butter</th>
<th>Chees</th>
<th>Milk</th>
<th>Sago</th>
<th>Jelly</th>
<th>Custard</th>
<th>Milk</th>
<th>Ice</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Roti</td>
<td>Rice</td>
<td>Roti</td>
<td>Rice</td>
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</tr>
</tbody>
</table>

Source: AIIMS Sample Diet Sheet
PHARMACY SERVICES

Pharmacy services play an important role in patient-care in a hospital. This department ensures constant supply of standard drugs at an economical price for the treatment of the sick. The pharmacy counter is generally the last place visited by OPD patients. On reaching the counter, the patients are in a tired state and expect quick service. It is observed in Table 4.5. Therefore, efficient and effective functioning of the pharmacy can result in increased efficiency in patient care and reduced need for admission.

Role of Function

The operation of the OPD pharmacy is guided by the administrative and professional policies of the hospital. The number of items and the number of days drugs are to be dispensed to outpatients again depends on the policy of the individual hospital. The main functions of the OPD pharmacy are to:\textsuperscript{12}

- compound and dispense drugs and medicines;
- receive prescriptions written by authorized physicians / surgeons / dentists of the hospital;
- eliminate the possibility of spurious drugs;
- determine pharmaceutical, chemical, physical or physiological incompatibilities;
### VARIOUS FLOOR AREAS FOR THE PHARMACY DEPARTMENT

<table>
<thead>
<tr>
<th>S. No.</th>
<th>Facility</th>
<th>25-50 Bedded</th>
<th>51-100 Bedded</th>
<th>101-200 Bedded</th>
<th>301-500 Bedded</th>
<th>501-750 Bedded</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td>(m²)</td>
<td>(m²)</td>
<td>(m²)</td>
<td>(m²)</td>
<td>(m²)</td>
</tr>
<tr>
<td></td>
<td>Pharmacy</td>
<td>No. of rooms</td>
<td>No. of rooms</td>
<td>No. of rooms</td>
<td>No. of rooms</td>
<td>No. of rooms</td>
</tr>
<tr>
<td>1</td>
<td>Office with toilet</td>
<td></td>
<td>1</td>
<td>1</td>
<td>1</td>
<td>1</td>
</tr>
<tr>
<td>2</td>
<td>Dispensing area with issue counter</td>
<td>10.5</td>
<td>1</td>
<td>1</td>
<td>1</td>
<td>1</td>
</tr>
<tr>
<td>3</td>
<td>Preparation and compounding area</td>
<td>17.5</td>
<td>1</td>
<td>1</td>
<td>1</td>
<td>1</td>
</tr>
<tr>
<td>4</td>
<td>Bottle washing area</td>
<td>3.5</td>
<td>1</td>
<td>1</td>
<td>1</td>
<td>1</td>
</tr>
<tr>
<td>5</td>
<td>Queuing area</td>
<td>Adequate</td>
<td>Adequate</td>
<td>Adequate</td>
<td>Adequate</td>
<td>Adequate</td>
</tr>
<tr>
<td>6</td>
<td>Pharmacist’s room with toilet</td>
<td>17.5</td>
<td>1</td>
<td>1</td>
<td>1</td>
<td>1</td>
</tr>
<tr>
<td>7</td>
<td>Pre-packing area</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>8</td>
<td>Stores</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>9</td>
<td>Janitor’s closet</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>10</td>
<td>Trolley bay</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Note: Wherever 'with toilet' is mentioned it is to be 3.5 m² inclusive in the total requirement of the room.

Source: Indian Standards Institution, Indian Standard Recommendations for Basic Requirements of General Hospital Buildings Part 2

Medical Services Departments IS 10905, 1986, p.17.
- set up required equipment in accordance with established standards and procedures;
- fill prescriptions and manufacture pharmaceutical preparations according to standard physical and chemical procedures such as filtration, distillation, titration, etc.

HOSPITAL LINEN AND LAUNDRY SERVICES

The term 'hospital linen' covers all textiles of the hospital including mattresses, pillows, blankets, sheets, towels. Cotton is the most frequently used material, as it is cheap and comfortable. Among man-made fibres, rayon, nylon, terylene or combinations (such as terycotton or terywool) are used for dress material of the staff only.

Classification of Hospital Linen

<table>
<thead>
<tr>
<th>A</th>
<th>Patient Linen</th>
<th>B</th>
<th>Laundry Linen</th>
</tr>
</thead>
<tbody>
<tr>
<td>* Patient Linen</td>
<td>* Laundry Linen</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Bed linen</td>
<td>Contaminated/Infected Linen</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Body Linen</td>
<td>Soiled Linen</td>
<td></td>
<td></td>
</tr>
<tr>
<td>OT Linen</td>
<td>Foul Linen</td>
<td></td>
<td></td>
</tr>
<tr>
<td>* Staff Linen</td>
<td>* Department / Service Linen</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Functions of the Hospital Linen and Laundry Services

Frequent change of linen and its effective laundering is an accepted measure in controlling cross-infection. Clean linen creates
an impressive visual impact on patients and visitors, and inspires confidence in total medical care. Laundering the linen and supplying it at the right place, in the right quantity and at the right time is very important for the smooth functioning of the hospital.\textsuperscript{13}

The hospital laundry and linen service, therefore, forms an integral part of hospital management. It is responsible for providing adequate, safe and timely supply of linen as, when and where required at a reasonable cost.

It has been found that a breakdown in linen supply causes 3\%-4\% cancellation of operation schedules. Similarly, 3\%-4\% infections spread due to mishandling of infected linen in the hospital.

The linen requirements of the hospital, depending on where it is to be used, are given below.

<table>
<thead>
<tr>
<th>Part of the Hospital</th>
<th>Linen Requirement</th>
</tr>
</thead>
<tbody>
<tr>
<td>OTs, Labour Room</td>
<td>This is based on consumption</td>
</tr>
<tr>
<td>General and Private Wards</td>
<td>2(\frac{1}{2}) - 3 kg of dry linen / patient / day.</td>
</tr>
<tr>
<td></td>
<td>3-4 kg of dry linen/patient/day. If the linen is changed every day.</td>
</tr>
<tr>
<td></td>
<td>4 sets of linen/bed if the linen is changed every alternate day.</td>
</tr>
</tbody>
</table>

Ideally, a hospital should possess 6 sets of linen per bed when occupancy is 100\%.
LABORATORY SERVICES

The hospital laboratory is the basic source of analytical information concerning the patient. Although the term laboratory has been in popular use, it is called the Department of Pathology in most hospitals. The pathologist who heads this department is a medical biologist, chemist and mathematician rolled into one. He provides all possible help to the physician, especially in solving difficult clinical problems.

Pathology is that branch of medicine which employs methods and instruments of precision for the examination of secretions and excretions of the human body and its functions to:

- diagnose disease,
- follow its course,
- aid in its treatment,
- ascertain the cause of death and the result of treatment by means of autopsies, and
- help advance the science of medicine by means of research.
General Functions

The functions of the hospital laboratory include:¹⁴

- provision of comprehensive and accurate analytical test results;
- collaborative consultation with clinicians regarding useful applications of scientific procedures for patient care;
- training of professional and technical staff;
- research; and
- adaptation of laboratory medicine for useful advances in basic science and so on.

The laboratory cases during the period of 2002-03 in this hospital were 1,33,971, 1,63,828 were in 2003-04 and 2,01,152 were in 2004-05.¹⁵

RADIOLOGICAL SERVICES

Good medical and surgical care frequently depend on the availability of prompt, thorough, and skilled radiological services. These include both radiodiagnosis and radiotherapy. Among the many modern diagnostic techniques, X-ray examinations contribute vitally in facilitating effective medication and treatment. The modern radiological department frequently functions as a centre for daily consultations in the hospital, a focal point for the provision of teaching or teaching cases (for medical, dental, nursing and allied
personnel) and as an important link in the research programme of the institution. A carefully planned department assures an efficient flow of service. The main aim is to provide prompt and accurate examination and treatment in pleasant surroundings.

Functions

The primary function of the radiology department is to provide radiological services of adequate quality and quantity to hospitalized patients. Secondary functions include provision of services to clinics and other outpatient departments, teaching and research.16

NURSING SERVICES

“Nursing in its broadest sense may be defined as an art and a science which involves the whole patient body, mind and spirit; promotes his spiritual, mental and physical health by teaching and by example; stresses health education and health preservation, as well as ministration to the sick; involves the care of the patient’s environment – social and spiritual as well as physical; and gives health care to the family and community as well as to the individual.”

According to Dr. Lambertson “Nursing is a dynamic, therapeutic and educative process in meeting the health needs of the society.”
Brief History of Nursing

"Introduction to simple nursing can be traced to the ancient civilization. For example, the ideals held by nursing practitioners and some elementary nursing procedures are described in the books of Charaka. Authorities believe these treatises were written about 500 to 600 A.D."17

Other statements by Sushruha follow:

"The nurse, that person alone, is fit to nurse or attend the bedside of a patient who is cool-headed and pleasant in his demeanor, does not speak ill of anybody, is strong and attentive to the requirements of the sick and strictly and defatigably follows the instructions of the physician..."

Tribute must be paid to Florence Nightingale for her contributions to modern nursing and modern hospital administration as she was pioneer in both these fields.18 Some of her works such as notes on nursing written in 1859, are as pertinent today as at that time they were written. Miss Nightingale's courageous crusade against a military system took precedence over the needs of the individual, her insistence upon the details of cleanliness within the hospital, her practice of making rounds to visit each patient and minister to him by day and by night, her personal interest in the individual as
demonstrated in her letters she wrote to the families of wounded soldiers – all these changed the pattern in the care of the sick and set an ideal which continues to be an inspiration to those who dedicate themselves to the care of the sick.

The objectives of Nursing Services are:¹⁹

1. To provide best possible patient care with minimum inputs to obtain the maximum results.

2. To identify the problems related to patient care and suggest possible solutions to overcome them.

3. To strengthen staff development programme to improve the standard of patient care.

4. To facilitate inter and intra-departmental co-ordination for the efficiency of the hospital administration.

5. To develop quality nursing education and to promote nursing research.

“There are two generally accepted types of organization in nursing service:²⁰ (1) Line organization; and (2) Functional organization. In the line organization, the director of nursing determines the number and kind of employees in nursing services; recruits and appoints them; directs their administrative activities, orientation, training, promotion, areas of responsibility, and all other
activities in regard to general functioning of the active department and its personnel complement. It is observed in Chart 4.8.

In the functional organization, the physician prescribes a course of treatment which is carried out on the respective clinical service. Member of the nursing staff are assistants to him in that it is their responsibility to provide him with the tools of operation (personnel, supplies, equipment etc). It is observed in the Chart 4.9.

**Functions of Nursing Service Department**

The following are the broad functions of the Department: It is followed in Chart 4.10.

1. *Preventive*: To carry out measures for the prevention of disease, for individuals and families through health education and other media regarding, sewerage disposal, environmental sanitation, safe water supply etc.

2. *Promotive*: Instructing people, sick and well, in measures promoting total health (Physical and mental) through mental hygiene, supervision of nutrition services and so on.

3. *Curative*: To carry out therapeutic programme including nursing care procedures, medical treatment under scientific principles, including also personal services aimed at hygiene and comfort. It is observed in Table 4.6.
<table>
<thead>
<tr>
<th>Units</th>
<th>Tasks</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. Organization</td>
<td>1. Staffing Patterns</td>
</tr>
<tr>
<td>2. Nursing Dept.</td>
<td>2. Selection</td>
</tr>
<tr>
<td></td>
<td>3. Placement of personnel</td>
</tr>
<tr>
<td></td>
<td>4. Delegation</td>
</tr>
<tr>
<td></td>
<td>5. Relation to other hospital departments</td>
</tr>
<tr>
<td></td>
<td>6. Evaluation of personnel</td>
</tr>
<tr>
<td></td>
<td>Nursing service operates &amp; achieves goals</td>
</tr>
<tr>
<td></td>
<td>Ed. Programme</td>
</tr>
<tr>
<td></td>
<td>Staff nurses.</td>
</tr>
<tr>
<td></td>
<td>In-service training</td>
</tr>
<tr>
<td></td>
<td>In-service training</td>
</tr>
<tr>
<td></td>
<td>Monetary Personnel</td>
</tr>
<tr>
<td></td>
<td>Budgeting</td>
</tr>
<tr>
<td></td>
<td>Budgeting</td>
</tr>
<tr>
<td></td>
<td>Budgeting</td>
</tr>
<tr>
<td></td>
<td>Budgeting</td>
</tr>
<tr>
<td></td>
<td>Budgeting</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Nursing Care of Patients</th>
<th>Activities</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. Nursing adm. role in planning &amp; directing patient nursing care</td>
<td>3. Standards</td>
</tr>
<tr>
<td>2. Standards</td>
<td>4. Education of nursing care</td>
</tr>
<tr>
<td>4. Education of personnel</td>
<td>6. Responsibilities for Supplies &amp; Equipment</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Personnel of Nursing Dept.</th>
<th>Communication</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. Staffing Patterns</td>
<td>1. Policy Manuals</td>
</tr>
<tr>
<td>2. Selection</td>
<td>2. Reports</td>
</tr>
<tr>
<td>3. Placement of personnel</td>
<td>3. Records</td>
</tr>
<tr>
<td>5. Relation to other</td>
<td>5. Co-ordination activities affecting care</td>
</tr>
<tr>
<td></td>
<td>6. Responsibilities for Supplies &amp; Equipment</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>1. Principles of budgeting</th>
<th>2. Types of budgeting</th>
</tr>
</thead>
<tbody>
<tr>
<td>Monetary Personnel</td>
<td>Monetal Personnel</td>
</tr>
<tr>
<td>Budgeting</td>
<td>Budgeting</td>
</tr>
<tr>
<td>Budgeting</td>
<td>Budgeting</td>
</tr>
</tbody>
</table>

Source: TNAI Souvenir 55th (6th Biennial) Conference, Bombay - 25 to 28th October, 1972, Chart No.II.
CHART 4.8

ORGANISATIONAL CHART – NURSING DEPARTMENT

Board of Directors

Administrator

Director of Nursing

Assistant Director

Educational Director

Administrative Supervisor Night

Administrative Supervisor Day

Administrative Supervisor Evening

Administrative Supervisor C.S.

Administrative Supervisor Emergency

Relief Supervisor

Relief Supervisor

Assistant Head Nurse

Assistant Head Nurse

Head Nurse

R.N. L.P.N. Aids Attendant

R.N. L.P.N. Aids Attendant

R.N. L.P.N. Aids Attendant

R.N. Aids, Clerk, Registers

Technician, Aids, Attendant

R.N. L.P.N. Technician Aids

R.N. L.P.N. Aids Assistant

Residents

Head Nurse

Directors

Medical Staff

Executive Committee

Medical Division Directors

Medicine

Surgery

Pediatrics

X-ray

Laboratory

Physical Medicine

Administrators

Assistant Administrators

Director of Nursing

Director of Public Relations

Director of Personnel

Controller

* Courtesy: Beekman-Downtown Hospital, New York, N Y.

** There are 6 Nursing Units

Direct responsibility

Teaching or advisory – indirect responsibility

*
CHART 4.9
BASIC ORGANISATION PLAN OF HOSPITAL NURSING DEPARTMENT*

CHART 4.10
BASIC ORGANISATION FOR A HOSPITAL NURSING DEPARTMENT

Board of Trustees

Hospital Director

Director of Nursing Service

Asst. Director, Nursing Services, Day, Evening, Night

Other Departments, X-ray, Laboratory, Dietary, Outpatient, Maintenance, Housekeeping, Laundry and Linen, Records, Admissions, Business Office, Personnel, Medical Staff, Pharmacy, Public Relations, Social Service

Supervisor, Medical Patient Units
- Head Nurses
- Clerk
- General Duty Nurses (Team Leader)
- Auxiliary Personnel

Supervisor Surgical Patient Units
- Head Nurses
- Clerk
- General Duty Nurses (Team Leader)
- Auxiliary Personnel

Supervisor Operating Room
- Head Nurses
- Clerk
- General Duty Nurses (Team Leader)
- Auxiliary Personnel

Supervisor Obstetrics
- Head Nurses
- Clerk
- General Duty Nurses (Team Leader)
- Auxiliary Personnel

"The Head Nurses at Work", Dept. Of Hospital Nursing, National League for Nursing, p.11.
4. **Restorative**: Includes early detection and diagnosis of diseases, intensive care observation, therapies and referral services.

5. **Rehabilitative**: Engaging the patient and his family in his recovery including medical, vocational, social, mental and rehabilitative services.

**NURSING SERVICES**

**Staffing Pattern of Hospital having 150 Beds**

1. Nursing Superintendent 1
2. Deputy Nursing Superintendent 1
3. Assistant Nursing Superintendents 2

(For every additional 50 beds, one more Assistant Nursing Superintendent).

**Nursing Staff for Wards, Special Units and Out-Patient Department**

<table>
<thead>
<tr>
<th></th>
<th>Staff Nurse</th>
<th>Sister</th>
<th>Deptt. Sr/ANS</th>
</tr>
</thead>
<tbody>
<tr>
<td>Medical Ward</td>
<td>1:3</td>
<td>1:25 each shift</td>
<td>1 for 3-4 wards</td>
</tr>
<tr>
<td>Surgical Ward</td>
<td>1:3</td>
<td>1:25 each shift</td>
<td>-do-</td>
</tr>
<tr>
<td>Orthopaedic Ward</td>
<td>1:3</td>
<td>1:25 each shift</td>
<td>-do-</td>
</tr>
<tr>
<td>Paediatric Ward</td>
<td>1:3</td>
<td>1:25 each shift</td>
<td>-do-</td>
</tr>
<tr>
<td>Gynaecology Ward</td>
<td>1:3</td>
<td>1:25 each shift</td>
<td>-do-</td>
</tr>
<tr>
<td>Maternity Ward</td>
<td>1:3</td>
<td>1:25 each shift</td>
<td>-do-</td>
</tr>
<tr>
<td>(including new borns)</td>
<td>1:1</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Intensive Care Unit</td>
<td>(24 hrs)</td>
<td>1 each shift</td>
<td></td>
</tr>
<tr>
<td>Coronary Care Unit</td>
<td>1:1</td>
<td>(24 hrs)</td>
<td>1 each shift</td>
</tr>
<tr>
<td>Nephrology</td>
<td>1:1</td>
<td></td>
<td>Deptt. Sister / ANS for 3-4 units clubbed together</td>
</tr>
</tbody>
</table>
Neurology & Neuro 1:1 1 each shift
Surgery (24 hrs)
Sp. Wards eye & ENT 1:1 1 each shift (24 hrs)
etc (24 hrs)
Operation Theatre 2 for 24-1 each shift hrs per ANS for 4 to 5 operation theatres
Deptt. Sister / ANS
Casualty & Emergency 2-3 S/N 1 each shift depending on the number of beds
for Emergency casualty etc

Out-Patient Department based on Actual Observation:

<table>
<thead>
<tr>
<th>(a)</th>
<th>Minor operation theatre</th>
<th>1 S/N for every 13 patients</th>
</tr>
</thead>
<tbody>
<tr>
<td>(b)</td>
<td>Injection room</td>
<td>1 S/N for every 86 patients</td>
</tr>
<tr>
<td>(c)</td>
<td>Surgical</td>
<td>1 S/N for every 120 patients</td>
</tr>
<tr>
<td>(d)</td>
<td>Medical</td>
<td>1 S/N for every 140 patients</td>
</tr>
<tr>
<td>(e)</td>
<td>Gynaecology</td>
<td>1 S/N for every 35 patients</td>
</tr>
<tr>
<td>(f)</td>
<td>Paediatric</td>
<td>1 S/N for every 85 patients</td>
</tr>
<tr>
<td>(g)</td>
<td>Orthopaedic</td>
<td>1 S/N for every 120 patients</td>
</tr>
<tr>
<td>(h)</td>
<td>Dental</td>
<td>1 S/N for every 120 patients</td>
</tr>
<tr>
<td>(i)</td>
<td>ENT</td>
<td>1 S/N for every 120 patients</td>
</tr>
<tr>
<td>(j)</td>
<td>Eye</td>
<td>1 S/N for every 86 patients</td>
</tr>
<tr>
<td>(k)</td>
<td>Skin</td>
<td>1 S/N for every 100 patients</td>
</tr>
</tbody>
</table>

Similarly, other out-patient departments need to be staffed based on actual observation.
MEDICAL RECORDS SERVICES

The history of medical records runs parallel with the history of medicine. Hippocrates (460 BC) kept medical records of fever cases treated by him.

The first medical record unit was established in 1667 at St. Bartholomew’s Hospital in England. This was followed by the practice of maintaining patient’s register in Pennsylvania Hospital in the USA in 1752. The earliest attempt at indexing of diseases was made by New York Hospital in 1862, and in 1914, a common disease nomenclature was adopted. The idea of proper medical record-keeping in the form of standardized inpatient records began in the USA from the American College of Surgeons and American College of Physicians. In 1928, the Association of Medical Record Librarians was formed in the USA.

In India, medical record keeping has not developed to the same extent as that in western hospitals. The Bhore Committee (1946) stressed the importance of keeping adequate medical records which was reiterated by the Mudaliar Committee in 1962. Subsequent health and hospital review committees (Jain Committee 1968, Rao Committee 1968) noticed the poor state of medical records in Indian hospitals and recommended the establishment of a proper medical
record section in each hospital. The first course of training for Medical Record Technicians was organized by the Christian Medical College, Vellore. Courses for Medical Record Officers are now being regularly conducted in India.

**Importance of Medical Records**

The medical record benefits the patient, the doctor, the hospital and public health authorities and contributes to education and research.\(^{22}\)

**1. To the Patient**

It helps the patient in the following ways:

- It helps to document the history of the patient's illness.
- It serves to avoid omission and unnecessary repetition of diagnosis and treatment measures.
- It assists in the continuity of care in the event that future illness requires attention in or out of the hospital.
- It serves as evidence to support or to refute any legal questions which may arise.
- It assists the patient and authorities concerned in fixing disability entitlements under the Workman's Compensation Act.

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2. To the Hospital

The medical records form the basis of many phases of administrative efficiency.

- It provides the management with statistical information necessary for decision-making with regard to utilization of resources, planning for administrative control and future references.

- It also furnishes documentary evidence for purposes of evaluation of hospital care in terms of quality, quantity and adequacy (medical audit).

- It protects the hospital in the event of legal questions (Torts suits).

3. To the Doctors

- It assures the doctor of the quality and adequacy of the diagnostic and therapeutic measures undertaken by him.

- It assures the doctor of the continuity of medical care.

- It helps the doctor in self-evaluation.

- It protects the doctor in case of legal suits.

4. To the Public Health Authorities

It provides a reliable mortality and morbidity statistics and thus help the public health authorities to plan preventive and social
measures to meet the needs of the community. Early warning of the incidence of communicable diseases is often obtained from hospital records.

5. To Medical Education and Research

Since recorded observations and case studies are the basis of all clinical research, medical records become invaluable in all research and teaching programmes.

Characteristics of Good Medical Records

<p>| | | |</p>
<table>
<thead>
<tr>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Complete</td>
<td>Sufficient data to identify the patient, justify diagnosis and warrant treatment and outcome</td>
</tr>
<tr>
<td>2</td>
<td>Adequate</td>
<td>All necessary forms and all relevant clinical information</td>
</tr>
<tr>
<td>3</td>
<td>Accurate</td>
<td>Capable of quantitative analysis</td>
</tr>
</tbody>
</table>

Functions of the Medical Records Department

The functions of the Medical Records Department are given in the Chart 4.11.
CHART 4.11

FUNCTIONS OF THE MEDICAL RECORDS DEPARTMENT

Source: Cedric & Kumar, 'Hospital Planning and Management', p.201

OPD, Casualty, Labour Room, Nursery

Assembling

Central Admission Office

Checking

Nursery / Ward / Unit

Analysis

Coding

Indexing

Complete Record Control

Reporting

Filing

Retrieval

Source: Cedric & Kumar, 'Hospital Planning and Management', p.201
MORTUARY SERVICES

Mortuary Service (MS) has long been neglected. The mortuary is generally located in a far-off isolated corner of the hospital with primitive facilities for body preservation and autopsy. Instead of becoming a pulsating enquiry centre of modern medicine, it has remained a dead-house. The concept of a modern hospital regards the mortuary as a culturally sensitive area in terms of public relations of the hospital. 23

Planning and Design Considerations

1. Location

The mortuary should be:

- Located in a separate building near the pathology laboratory, preferably on the ground floor.
- Easily accessible from the wards, casualty and OTs.
- Located in one wing of the hospital preferably away from the general traffic routes used by the public.
- Located in an area with ample natural light through windows; the windows of the principal rooms should preferably be on the northern side.

The mortuary must have a separate entrance and exit for relatives and hearses.
2. Area and Space Requirements

The proposed plan of a mortuary and post-mortem unit consists of:

a. Covered Access or Portico

The access to the unit should have a covered area forming a portico for vehicles leading to the mortuary complex. This acts as a protection in wet weather and as a screen from adjoining areas. It is also desirable to have an exit to a subsidiary road and nearby car park.

3. Supervision and Control

Misuse of an ambulance is a common complaint. Also, ambulances remain out of order due to minor defects and poor maintenance. A study carried out by the Central Health Transport Organization, under the Department of Family Welfare, reveals that at least 20% of their vehicles are off the road due to lack of proper preventive maintenance (PPM). Therefore, proper supervision and control is required. This includes:

- Periodic checking of log books.
- Periodic physical checking of the vehicle.
- Issuing duty slips for using the vehicle.
- Authorizing use of vehicle by a competent authority.
• Using standard type of spares, fuel and lubricants which enhance the life of vehicle.

The importance of preventive maintenance cannot be over-emphasized in the smooth functioning of an ambulance service.

HOSPITAL HOUSEKEEPING SERVICES

Hospital housekeeping is essentially a public service agency. It plays an important role in prevention and control of hospital infection and, therefore, directly affects the health, comfort and morale of patients, doctors, visitors and hospital personnel. Hence, good housekeeping reduces the average duration of patient-stay and drug cost, and minimizes suffering.24

Organization

The housekeeper in a hospital reports directly to the Medical Superintendent / Administrator / Nursing Superintendent. Chart 4.12 shows the reporting lines of a housekeeper in a small and a large hospital.
CHART 4.12
REPORTING LINES OF A HOUSEKEEPER IN A SMALL AND LARGE HOSPITAL

Small Hospital
Governing Body
  ↓
  Administrator
  ↓
  Housekeeper
  ↓
  Nursing Orderlies Porters Sweepers

Large Hospital
Governing Body
  ↓
  Medical Superintendent
  ↓
  Executive Housekeeper
  ↓
  Supervisors
  ↓
  Nursing Orderlies Porters / Sweepers Upholders Assistant

Source: Cedric & Kumar, 'Hospital Planning and Management,' p.173
AMBULANCE SERVICE AND OTHER TRANSPORT ARRANGEMENTS

Transporting the sick / injured in a correct and comfortable position after providing some medical aid helps in reducing the mortality rate. The sick / injured can be brought to the hospital in an ambulance. Studies have shown that a properly equipped ambulance with emergency aids such as oxygen, ECG and other monitoring systems can save lives in case of accidents and myocardial infarctions. During the last two decades the emphasis has been on proper designing and equipping of ambulances.

Objective

The basic objective of an efficient ambulance service is to transport sick / injured to the nearest medical aid post or hospital in minimum possible time. In many public undertakings and medical care programmes, such as railways and defence, the ambulance service is also considered as a welfare activity besides an aid to the health-care delivery system.

Ambulances may be authorized for:

- major abdominal operations;
- maternity cases,
- orthopaedic cases with plaster,
- hyperpyrexia;
- psychiatric cases.

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### TABLE 4.7

**STAFFING IN THE GENERAL HOSPITAL**

<table>
<thead>
<tr>
<th>Hospital Requirement</th>
<th>Beds</th>
<th>Catchment Area</th>
<th>Ambulances</th>
<th>Drivers</th>
<th>Cleaners</th>
</tr>
</thead>
<tbody>
<tr>
<td>101-300 &lt;5 km</td>
<td>1</td>
<td>(factory hospital)</td>
<td>1 (round the clock)</td>
<td>4* (for 2 ambulances)</td>
<td>1</td>
</tr>
<tr>
<td></td>
<td>1</td>
<td></td>
<td>+ 1 (stand by)</td>
<td>+ 1 (for delivery van)</td>
<td></td>
</tr>
<tr>
<td>101-300 6-8 kms</td>
<td>2</td>
<td>(round the clock)</td>
<td>2 (for 8-hourly shift)</td>
<td>6 (for 2 ambulances)</td>
<td>1</td>
</tr>
<tr>
<td></td>
<td>2</td>
<td></td>
<td>+ 1 (reserve)</td>
<td>+ 2 (for weekly day off - 7 days a month and reserve leave)</td>
<td></td>
</tr>
<tr>
<td></td>
<td>2</td>
<td></td>
<td></td>
<td>+ 1 (for delivery van)</td>
<td></td>
</tr>
<tr>
<td></td>
<td>9</td>
<td></td>
<td></td>
<td><strong>9 Drivers</strong></td>
<td></td>
</tr>
<tr>
<td></td>
<td>5</td>
<td></td>
<td></td>
<td><strong>5 Drivers</strong></td>
<td></td>
</tr>
</tbody>
</table>

Note: * The drivers should be available within the hospital premises and their duty roster so arranged that they get their weekly and reserve leave. There is no need for an extra driver.
An Overview

Hospital administrators in modern times are faced with problems and challenges of increasing complexity and congnitude to ensure smooth running of various departments of a hospital. The ever increasing pressure of patients and their demands for hi-tech medical care along with rising cost of administration of services calls for efficient hospital administration and management. The hospital plays a major role in maintaining and restoring the health of the community. The hospital possesses a number of services. Outpatient services are required to meet the growing health needs of the people through health education, prevention, early diagnosis, case finding, better diagnostic, and therapeutic procedures, rehabilitation and follow-up, all of which are a challenge sound planning and good administration of the OPD. In-patient services are the most important in the hospital-based health care delivery system. These services are under constant pressure of increasing demand. The main objective of inpatient services is to provide accommodation for patients at the point in an illness when dependence on others is highest. Intensive care is one of the important aspects of critical care medicine. The aim of the ICU is to first give life support to a patient or prevent threat to life. They are cost and labour-intensive. Therefore, their effective and efficient utilization is most desirable. It is primarily meant for the
patient in a critical stage of illness and for all seriously ill patients. The admission and discharge policies should be based on these criteria. Emergency medical services in fact, are an important aspect of acute medical care provided by the emergency department of the hospital. The operating theatre unit is an area where a team of surgeons, anaesthetists, nurses and sometimes pathologists and radiologists operate upon or care for patients. Surgical facilities really represent a central life-saving activity. The performance is dramatic and successes and failures are highly visible.

Under supportive services, central sterile supply services are the most important one. It is supposed to store, sterilize, maintain and issue those instruments, materials and garments which are required to be sterile. Good dietary service is not only necessary to meet the physiological and therapeutic needs of the patient but is too important for public relations. Efficient management and supervision are basis to preparation of good food. The pharmaceutical services in most of the hospitals represent the functions of procurement and distribution of medicaments by medical store and compounding and dispensing of medicine on doctor’s prescription by persons hitherto known as compounders, generally under the control of medical officers. Laundry service is also an important function with the objective of
providing better ‘medical care’ to the patients in a clean, conducive environment. The efficiency and effectiveness of nursing can increase with a better organized laundry service.

Laboratory services must be avoidable at all times, with a 24-hours a day in-service or on-call status maintained to meet the needs of medical care in the budget. Radiological services in general, are providing radiological services of adequate quality and quantity to hospitalized patients. The nursing service is a coordinate system of activities which provides all of the facilities necessary for rendering of nursing care to patients.

Under the auxiliary services, registration and indoor case records are one of them. Registration is a must for a hospital to control new patients with proper entry in OPD cards and keep track of the revisits of the patients. Store services are of different types – pharmacy stores, chemical stores, linen stores, surgical stores, glassware stores, stock-policy and so on. Transport requirements for the carriage of supplies and patients are trolleys, stretchers and wheel chairs. Each hospital should have a cold storage area or mortuary, where dead bodies are kept before they are claimed by the relations. Sometimes post-mortems need to be done for medicological reasons. Unclaimed bodies should be disposed-off according to rules.
The Dietary Services play an important role in providing the hospital’s menu to meet the specific needs of the patients. The hospital building, furniture and other equipment are essential for the efficient functioning of the hospital under engineering services. The hospital security is the most important services. It is an essential to ensure the safety of patients and the staff. All these above services really, are occupied a vital place in the hospital administration. For maintaining these services, finances are so required. Financial administration at the hospital level is studied in the coming chapter.
References

1. Cedrie B. Finch, Dr. D. K. Sharma and Dr. R. C. Goel., *Hospital Planning and Management*, Voluntary Health Association of India, (New Delhi), 1999, p. 15.


5. Ibid., p. 55.


14. Ibid., p. 94.


19. Ibid., p. 15.


22. Ibid., p.18.


25. Ibid., p.173.