

Proposed Minimum Standards for Private Hospitals/Nursing Homes

Upto 30 Bedded Unit Providing
Medical / Surgical / Maternity Services

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Introduction

This document contains information intended as model standards for planning a nursing home upto 30 beds in respect to functional program, human power, equipment, functional and space requirements. A few essential building services, engineering and environmental requirements have also been covered.

A nursing home is envisaged as place where a patient is admitted for overnight medical and nursing care. It is common practice in most nursing homes to provide various disciplines under one roof. This document lists out minimum standards for nursing homes providing medical /surgical/maternity facilities.

Provision of medical facility does not require any special infrastructural input beyond that available in any nursing home. It is mainly a question of medical skill and hence medical patients are normally admitted to nursing homes which provide care in other disciplines. In a rare case of existence of **“Medical” nursing home.**

1. The minimum functional programme of such a nursing home would have to adhere to points 1, 2, 5, 6, 7, 8, 9, 10, 11, 12, 13 listed under the section on functional programme.
2. Functional and space requirements would be as listed out under the various zones in the relevant section. Only the critical zone is to omitted
3. Similarly, equipment, instrument and human power requirement would be as specified under the relevant sections, omitting those which fall under the critical zone

In a **“General Surgical”** nursing home only the space, equipment and instruments which have been listed under the Delivery Suite will not be required. Everything else in the document would have to be provided.

A **“Maternity Home”** should be provided with all minimum human power, space, equipment and instruments as detailed in the document.

Standards for day care centre, intensive care units and other disciplines like orthopedics, ENT, etc. are beyond the purview of this document.

The sponsor of a nursing home shall provide a functional programme for the facility that describes the purpose of the project, the projected demand or utilisation, staffing patterns, departmental relationships, space requirements and other basic information relating to fulfillment of the institution’s objectives.

Nothing in these standards should be construed as restrictive to a facility that chooses to do

work as part of a long range plan for improvement of quality/level of services provided or safety of the facility.

A nursing home should be integrated with the community where it is situated and should participate/take lead in health education, nutrition and other needs of the community.

Functional Programme For A Nursing Home

The basic minimum functions provided by a nursing home should include the following :

1. EMERGENCY FIRST AID : Emergency first aid is care provided initially to stabilize a victim's condition and to minimize potential for further injury during transport to an appropriate service. At minimum each nursing home shall have provisions for emergency first aid treatment for staff as well as for persons who may be unaware of or unable to immediately reach services in other facilities. This is not only for minor incidents that may require minimal care but also for persons with severe injuries or in grave condition who must receive immediate first aid and assistance for transport to other facilities.

Emergency first aid includes facilities for incubation, venesection, thorough cleaning/dressing of wounds, ligations of bleeding vessels, insertion of intercostal drainage tube, application of Thomas Traction, starting of nasal O₂, bladder catheterisation, stomach wash, establishing an intravenous line in case of patients in shock, controlling of convulsions, controlling of acute attacks of breathlessness, etc.

Emergency first aid services should be provided to all patients in need of them irrespective of their capacity to pay.

2 General Medicine : All nursing homes providing medical facilities should be able to provide **Clinical** diagnosis for infectious diseases, diabetes, hypertension, auto-immune disorders, endocrine disorders, neurological disorders, renal disorders, skin diseases, gastro-intestinal disorders, etc. Treatment and follow-up care for a majority of these conditions would also be possible by a physician.

Medical personnel manning such a facility should be able to take a decision regarding cases which require higher medical skills or which may eventually need transfer to a better equipped facility (intensive care, surgical facility, ventilators, hemodialysis machine, cardiac monitors, etc.) and accordingly transfer such patients at the earliest.

In case a patient had been admitted in such a facility for more than 24 - 48 hours, it is expected that the patient will be transferred with a medical attendant *accompanying the patient and all medical records (including X-rays, investigation reports, clinical notes) will be made available to the next doctor who will be treating the patient. It is also expected that the doctor who had treated the patient initially will keep in touch with the institution to which the patient has been transferred in order to remain aware of the patient's condition.

- NOTE : If a Nursing home provides 'Cardiology Consulting' facilities only, this should be

clearly stated in the functional programme of the nursing home as well as in any advertising material put up by the nursing home. This is to avoid confusion and misunderstanding in the minds of the populace seeking care.

A nursing home which claims to provide Emergency Cardiology Services should possess intensive care facilities

3 General Surgery : A general surgical nursing home would be able to provide Elective General Surgery for the following : Benign and malignant soft tissue tumours, benign breast disease, carcinoma breast, thyroid surgery benign and malignant conditions of the gastro-intestinal tract, benign anal conditions, inguinal hernia, hydrococle, varicose veins, testicular tumours, abscesses, vasectomy, splenectomy, etc.

In case a patient who has been operated upon or has been admitted in a surgical nursing home needs transfer to a better-equipped facility, it is expected that the patient will be transferred with a medical attendant *accompanying the patient and all medical records (including X-rays, investigation reports, detailed indoor notes with operation and anesthesia notes) will be made available to the next doctor who will be treating the patient. It is also expected that the doctor who had initially treated the patient will continue to keep in touch with the patient, his/her relatives and the next doctor. A purely general surgical nursing home need not have a delivery suite.

** As far as possible, the treating doctor should accompany the patient. If not a Duty Medical Officer (D. M. O) or a nurse with an Ayahbai or ward boy should accompany the patient.*

- Note 1 : Elective surgery for uncomplicated urolithiasis, gall bladder conditions and closed reduction of fractures can be performed if portable X-ray facility is available.
- Note 2 : In case a surgical nursing home provides emergency General Surgical facilities, this should be clearly mentioned in the functional programme of the nursing home as well as in any advertising material put up by the nursing home. In such nursing homes emergency care for cases of acute abdomen, strangulated hernia, torsion testis, etc. can be provided. For this X-ray facilities should be available within the nursing home and access to Blood Bank and Ultrasonography facilities should be available within half an hour.
- Note 3 : Conditions like carcinoms oesophagus, acute abdomen with cardio-respiratory compromise, oral malignacies, pancreatic surgery for obstructive jaundice/malignancies/chronic pancreatitis, liver Surgery, biliary tract strictures and malignancies, surgery for portal hypertension, recurrent surgery in the abdomen for complications like G.I fistulae, repeated adhesions, associated serious medical conditions like severe diabetes, cardiac disease etc., and other conditions that will need critical

management with ventilators/intensive care units should not be operated upon unless intensive care facilities can be made available.

4 Maternity Facilities : All nursing homes providing maternity facilities should provide basic obstetric facilities and neonatal facilities. All maternity homes should be able to carry out procedures like suction and evacuation, dilatation and curettage, Lower Segment Cesarean Section and Hysterectomy on an emergency basis. Blood transfusion facilities should be available within half to one hour. Also ultrasonography facilities should be available within half to one hour. The functional programme of the nursing home should mention nearest availability of neonatal intensive care facilities.

5 Pathology : The type and extent of laboratory facility to be available for a nursing home would depend on the functional programme of the nursing home. But provisions shall be made for the following minimum procedures to be performed on site or at a nearby facility. Blood counts, urinalysis, blood glucose, blood urea and nitrogen, coagulation profile (bleeding time, clotting time, prothrombin time), Blood grouping, typing and cross-matching, serum electrolytes, serum amylase*. Provision shall also be included for specimen collection and processing. A separate toilet facility should be provided for the pathology section.

** If a cross contractual arrangement is possible to provide these investigations within half to an hours time, these need not be duplicated within the nursing home.*

6 RADIOLOGY : Equipment and space for the department would have to be planned according to the program functions. In the minimum following X-rays should be possible : X ray chest, abdomen, pelvis, femur and skull. For this an X-ray machine of 300MA capacity is needed. In nursing homes providing emergency surgical facilities and those with more than twenty beds, the X-ray machine should be installed within the nursing home premises. In smaller facilities, it should be possible to have access to such X-ray facilities within one hour.

Standard precautions should be taken in the construction of the radiology room like constructing the walls with barium impregnated bricks.

In radiological facilities where procedures like IVU are carried out, separate facilities should be provided for disposal of urine.

In case radiotherapy, nuclear medicine facilities are to be provided, guidelines by local statutory bodies should be followed.

7 ECG : Portable ECG facilities should be available in all nursing homes round the clock.

8 HEALTH EDUCATION : All medical personnel in nursing homes should be aware of all the various national programmes for control of various diseases and should integrate with the same. For e.g., on detecting a case of leprosy, information regarding the same must be directed to Medical Officer in-charge of the local PHC/UHC where the survey, education and treatment centre of the National Leprosy Programme is situated. Nursing homes should maintain records of all such instances which may be checked by regulating bodies on a periodic basis.

Special mention needs to be made regarding infectious and occupation related notifiable diseases.

Medical personnel in nursing homes should ideally also be involved in educating the local populace on nutrition, child care, psychological needs of various constituent groups in a community, school health, the harmful and useful effects of drugs/medicinal preparations, etc. Records for these also must be maintained.

9 AMBULANCE SERVICES : All nursing homes should have access to ambulance services within half an hour.

10 MEDICAL RECORDS : Maintenance of medical records of all patients attending the nursing home is of utmost importance.

The "OPD paper" of a patient attending the OPD should contain the doctor's name and detailed clinical notes including patient's name, age, occupation, chief complaints, onset/duration/progress of illness, past history, personal history, family history, detailed examination findings, provisional diagnosis and treatment advised. A separate prescription should be written out for the medication that has been advised.

The OPD paper should be given to the patient alongwith X-rays and all investigation reports. Nursing homes may maintain a copy of the OPD paper. All indoor papers should be complete, i.e. clinical notes (as detailed above) should be written along with whatever treatment has been given during the admission and reports of investigation carried out.

In case of operated patients detailed operation and anesthesia notes should be written.

In case of deliveries, labour room notes should be complete.

All indoor records should be carefully maintained by the nursing home so that they may be scrutinized at any time.

On discharge or on transfer a discharge summary should be given to the patient with all details clearly written down. Also all X-rays and investigation reports should be handed over to the patient.

A separate register of all deaths occurring in the nursing home should be maintained.

A separate register of all births occurring in the nursing home should be maintained.

Duplicate copies must be maintained of all certificates issued by the nursing home.

Notifiable disease register and whether local authorities have been informed of the same.

11 Dietary Facilities : All maternity homes and all nursing homes with more than 20 beds shall provide dietary facilities for indoor patients.

12 Others : Disciplines like Dentistry, Ophthalmology, ENT, Orthopedics etc. and diagnostic facilities like ultrasonography, C.T. scan, etc. if provided by a nursing home would require design, equipment, space as well as personnel over and above that specified in the document.

13 Universal biosafety guidelines shall be followed by all nursing homes to protect personnel employed from occupation related diseases.

Human Power Requirements

Qualifications

Physician : M.D. degree from a university or equivalent from a local recognised body OR diploma from Diplomate of National Board or equivalent from a local recognised body.

Surgeon : M.S. degree from a university OR Diploma from Diplomate of National Board or equivalent from a local recognised body.

Obstetrician and Gynecologist : M.D. degree from a university or equivalent from a local recognised body or diploma from Diplomate of National Board or local recognised bodies (like C.P.S) or university or equivalent from a local recognised body.

Anesthetist : M.D. degree from a university or university or equivalent from a local recognised body OR diploma from Diplomate of National Board or local recognised bodies (like C.P.S) or university or equivalent from a local recognised body.

Neonatologist/Pediatrician : M.D. degree in Paediatrics from university or equivalent from a local recognised body or diploma from Diplomate of National Board or local recognised bodies or university or equivalent from a local recognised body.

Duty Medical Officer : MBBS, BAMS, or BHMS should have completed one year of internship. Responsibility regarding clinical decisions, procedures etc. is that of the consultant and not the DMO.

Availability of Personnel :

As soon as a patient arrives at a nursing home, (in emergencies) he or she should immediately be seen by a Duty Medical Officer. A consultant should see the patient within half an hour.

A nursing home providing **MEDICAL** facilities should have a physician available on call round the clock.

A nursing home providing **SURGICAL** facilities should have a surgeon and anesthetist available on call. In case Emergency Surgical Facilities are also provided then a surgeon and anesthetist should be available on call round the clock.

A nursing home providing **MATERNITY** facilities should have an Obstetrician and Gynecologist, an anesthetist, a surgeon and a neonatologist available on call round the clock.

A nursing home may need an administrator to look after everyday running of the nursing home.

In nursing homes where consultants are resident, the requirement for D.M.O could be accordingly scaled down.

Minimum requirement of personnel :

Duty Medical Officer

- One duty medical officer for every 20 indoor beds or part thereof in every eight hour shift.
- Two duty medical officers to function as O.T. assistants during routine O.T. hours (8 hrs) and one each for the next two shifts in those facilities providing emergency surgical care and obstetric care (nurses could be trained to perform this function).
- One duty medical officer for the labour ward in every eight hour shift. (Optional. This function may be performed by the O.T. assistant or a trained nurse)

A formal training programme may be worked out for D.M.Os.

Nursing staff :

- One nurse for every 10 beds if on same floor on every eight hour shift and if on different floors then in same proportion on different floors. Here one nurse undergoing training may be posted along with a qualified nurse*.
- Two qualified operation theatre nurses for routine surgery. For nursing homes offering maternity facilities and emergency surgical facilities two more operation theatre nurses will be required on shifts. (In practice the number of nurses posted specifically for this area would depend on the patient load there.)
- Four qualified nurses for labour room. One in each eight hour shift. They may also function as O.T nurses when required.
- One nurse should be kept available for emergency patients on every eight hour shift.
- During regular OPD hours one more nurse should be kept available for OPD block.

** There should be a formal nurses training program and nurses should be issued certificates for the same. They may be later posted for training in critical areas.*

Nursing aids:

- One ayahbai or one ward boy for every 8 beds for every eight hour shift.
- One ayahbai for obstetrics and gynaecology OPD.
- One ward boy for surgical and medical OPD.

- One ayahbai for labour room.
- One ayahbai or ward boy for O.T. suite
- One sweeper per eight beds for wards in every 8 hour shift.
- One sweeper for operation theatre and Labour ward.

Ayahbai/ward boy/sweeper need to undergo training in nursing care skills like measuring of urine output, assisting in inserting an I.V. line, transferring patients from trolleys to beds, etc.

Paramedical staff :

In case a contractual arrangement is being availed of for these functions, then these personnel may be appointed accordingly

- One Pathology technician (optional)
- One Radiology technician (optional)
- One ambulance driver (optional)

Availability of paramedical staff should be adequate to satisfy basic functions as specified in the functional program.

Engineering staff

- One plumber (To be available on call throughout the day)
- One electrician
- One qualified consultant engineer

Administrative and Ancillary staff

- Receptionist 2 (on shifts)
- Cashier 1(optional in NHs with low patient turnover this function may be performed by any of the other staff)
- Storekeeper 1
- Stenographers 1 (in NHs with more than 20 beds for maintenance of records)
- Security staff 4 (one per shift)

NOTE: For the indoor section in a 30 bedded nursing home where there are no resident

consultants this work out to

| | | | |
|----------------------------|---------------------|---------------------|-----------------------------|
| DMOs | | 6 (2 in each shift) | |
| Nurses | -wards | 11 | |
| | -OT and labour room | 9 | (for a busy labour room and |
| OT) | | | |
| Ayahbai & ward boy | | 12 | |
| Sweepers | | 3 | |
| Administrative & Ancillary | | <u>9</u> | |
| TOTAL | | <u>50</u> persons | |

INSTRUMENTS AND EQUIPMENT

Entrance zone

Reception and Registration with cashier

Desk/counter

Chairs (to seat personnel)

Storage cabinets (for copies of bills, OPD records, etc)

Janitor's equipment

Floor scrubbers, brooms, dusters.

Waiting area

Chairs for patients and relatives

(Drinking water facility and toilets should also be provided)

One wheel chair

One trolley - This should be an emergency trolley with a mattress and adjustable side railings. It should also be adjustable for head low/head high positions.

Ambulatory zone

a. Nursing station

Desk/counter

Chairs

Notice boards

Communicating system

Storage space; cupboards, etc.

b. Treatment/Dressing room and Injection room

Water bath large size

Examination table with mattress to carry out dressings and

Dressing trolley

Hydrogen peroxide solution, Savlon solution, solvent ether spirit, Povidone iodine solution, Freshly prepared Eusol, Freshly prepared 1% Na Hypochlorite solution, Cheatles forceps in savlon solution, Drums with sterile gauze and gamjee and bandages, Sterile packets of catgut, ethylon, prolene, silk, etc., autoclaved linen, sticking plaster, 2% Xylocaine without adrenaline, suture cutting scissors, Disposable syringes 5,10,20 ccs needles curved, cutting and round bodied small and medium sizes kept in Lysol solution.

ECG machine (portable)

Dustbins (2) with lids

Suction apparatus

Oxygen cylinder (2) with flowmeter

One trolley for oxygen cylinder.

Laryngoscope with blades.

Ambus bag

IV stands (2)

Emergency trolley

Inj adrenaline, effcorline, soda bicarb

Inj aminophylline, chlorpheniramine

Inj calcium gluconate

Catheters tray (all sizes of catheters)

Endotracheal tubes tray (all sizes of cuffed tubes) with connectors

Oropharyngeal airway. metallic all sizes.

Spirit bottle. Syringes and needles

Venesection tray

Small plain forceps and small toothed forceps

Venesection scissors

Curved cutting needles medium sizes (2)

Barboos linen

Small mosquito forceps (2)

Towels (2)

One bowl

KY jelly

Foleys Catheters

I.V. fluids

c. Examination and consultation rooms (OPDs) and casualty

Chair for consultants - One for each consulting room and casualty

Chairs for patient and persons accompanying patient - Two or three per consulting room and casualty

Revolving stool (metallic) - One for each consulting room

Tongue depressor - One each for medical and surgical consulting rooms and casualty

Thermometer (oral) - One each for every consulting room and casualty

Sphygmomanometer - One each for medical and obstetrics OPD and one for casualty

Stethoscope - One for each consulting room and casualty

Torch Big size (three batteries) - One for each consulting room and casualty

Small pin-point source torch-light for medical consulting room

Kidney trays - One for each consulting room and casualty

X-ray viewing box - One for each consulting room and casualty to carry one X-ray at a time.
Bowls - One in each consulting room
Examination table with mattress - One each for medical and surgical consulting rooms.
Examination table for OBG clinic - with appropriate light fixture and stool for doctor
Doctor's table - One for each consulting room
Step stool - One for each consulting room
Wash basin with liquid soap dispenser and towel rail - One in each consulting room and in casualty
Protoscope, small medium and large for surgical OPD
Hammer - for eliciting tendon jerks. One for medical consulting room
Tuning fork - One for medical consulting room

Sims speculum

Ant. vag wall retractor For OBG/OPD

Bivalved speculum

Weighing machine

Gloves

Towels

Bedsheets

Screens: For every examination table. (May be suspended neatly from the wall, or screen stands may be used)

d. Pharmacy

Desk/counter

Refrigerator 175 litres

Diagnostic zone (optional)

These need not be available within the nursing home in case a contractual arrangement is possible.

Pathology

Desk

Cabinets to store reports

mm wide and 800 mm high bench of length about 2 metres per technician.

Each lab bench shall have lab sink with swan neck fittings, reagent shelving, gas and power point and under counter cabinet. The table top should be easy to clean and resistant to corrosion.

Sahli's hemoglobinometer with pipette

Microscope
Pipettes for RBC and WBC counts
Diluting fluids
Neubauer's chamber
ESR- wintrobe's tube
Westergren's tube for PCV
Stand for the same
Slides cover glass
Centrifuge. 300 revolutions/min.
Test tubes with stands
Reagents for various tests
Anticoagulants, preservatives
Colorimeter
Glucometer (optional) In case personnel to carry out manual methods is available round the clock, this may not be needed.
Refrigerator 175 lts. (Most kits need to be stored in a refrigerator)
Flame photometer (for serum electrolytes)
Water bath

NOTE: In case a autoanalyser/ semi autoanalyser is installed some of this equipment would not be necessary.

Radiology (optional)

Apron, lead rubber
Cassettes with intensifying screens
Chair, office type
Chair, plastic moulded
Diagnostic X-ray unit. 300 mA with automatic device
Dark room with safe light
Dark room timer
Dark room adaption goggles
Film clips
Film hanger and wall brackets
Hanger for X-ray film
Gloves, lead rubber
Lead numbers for marking X-ray film
Lead sheets
Magnifying glass
Step stools

Revolving stool
Tank thermometer
Patients' trolley
Wash basins with towel rail/liquid soap dispensers
X-ray view box
X-ray protection screen
X-ray film processing tank
X-ray film corner

Intermediate zone

a. Wards

Bedsteads (If provided with facility for IV sets, separate IV stands need not be provided)
Half of the requirement should be Fowler's and the other half may be normal. Post-natal beds need not be Fowlers

Bedside lockers with table top (one for each bed)
One dustbin with lid for each bed
One stool with each bed
One steel water jug with one steel glass for every bed
One mattress with mattress cover
One pillow with pillow case (pillow cases to be changed on alternate days)
Hospital clothes - Pyjamas and coat. Three sets per bed
One blanket per day per bed
One kidney tray per bed
One spittoon per bed
Indoor papers stand/holder (one per bed)
Urine pot (one for every four patients)
Bed pans (one for every four patients)

b. Nursing station

Desk/counter
Wall clock
Wash basin with liquid soap dispenser and towel rail
Sink unit
Notice boards
Fire fighting equipment
Enemr can-set - One per ten beds
B.B splint (Bohler-Braun) (for limb elevation)
Ophthalmoscope

Torch large size (3 batteries) - One & one small size (pin-point source)

Percussion hammer

Laryngoscope with blades of all sizes

Medicine trolley

Inj aminophylline, chlorpheniramine adrenaline, ranitidine.

Tablets- Paracetamol, chlorpheniramine, Gelusil, ranitidine, C. ampicillin.

X-ray viewing box for one X-ray plate

Refrigerator 300 litres

Weighing machine

Stethoscope

Torch

c. Treatment room

Water bath - big size

Glass syringes, 5,10,20ml

Disposal syringes and needles

General purpose scissors

Thomas splint - all sizes

Emergency trolley as detailed in ambulatory zone

Dressing trolley treatment room

Venesection tray

d.. Trolley bay

Screen stands. Two screen stands per ward

One trolley - ordinary.

One wheel chair

e. Ward store

Storage racks

Oxygen cylinders

IV stands

Suction apparatus

IV fluids and IV sets

Foley's catheters with urine bags

Naso-gastric tubes

Operation Theatre

Instruments for General Surgery & (Maternity) Obstetrics/Gynaecology.

The aim of the following list of instruments is to provide an exhaustive checklist of instruments that may be required. It is recognised that surgeons have preferences for types and number of instruments and this list need not be considered as restrictive.

| Instruments | Quantity | Size |
|---|----------|---------|
| <u>General Instruments</u> | | |
| Sponge forceps (Rampley) | 4 | 2.5cms |
| Towel clips | 6 | 11cms |
| Artery forceps, straight | 6 | 16cms |
| (crile) curved | 6 | 16cms |
| Artery forceps (mosquito) straight | 6 | 13cms |
| curved | 6 | 13cms |
| Curved artery forceps (Mayo or Kelly) | 6 | 20cms |
| Straight artery forceps (spencerwells) | 6 | 20cms |
| Tissue forceps (Allis) | 4 | 15cms |
| Standard dissecting forceps toothed | 2 | 14.5cms |
| non-toothed | 2 | 14.5cms |
| Long dissecting forceps (toothed) | 1 | 25cms |
| Long dissecting forceps (non-toothed) | 1 | 25cms |
| Straight dissecting scissors (Mayo) | 2 | 17cms |
| Curved dissecting scissors (Mayo) | 1 | 23cms |
| Dissecting scissors (Metzenbaum) | 1 | 18cms |
| Skin grafting (Humby's) handle | 1 | |
| Skin grafting blades | | |
| Stitch scissors with blunt ends | 2 | 15cms |
| Abdominal wall C-shaped retractors (narrow, medium) | | |
| Retractors (Deaver) medium, blade | 1 | 25mm |
| large blade | 1 | 75mm |
| Needle holders (Mayo) medium | 2 | 15cms |
| large | 2 | 17.5cms |
| Scalpel handles No.3 (Bard Parker) | 12 | |
| No.4 (Bard Parker) | 12 | |
| No.5 (Bard Parker) | 4 | |
| Suction nozzle | 1 | 28.5cms |
| Diathermy electrodes, coagulating & fulgurating | 2 | |
| Grooved director | 1 | 20cms |

| | | |
|---|---|--------|
| Stainless steel bowls small | 6 | |
| medium | 6 | |
| large | 6 | |
| Stainless steel kidney trays small | 4 | |
| medium | 4 | |
| large | 4 | |
| Sinus forceps | 2 | |
| Wooden boards with beveled edges | 4 | |
| <u>Abdominal Instruments</u> | | |
| Self retaining retractor | 1 | |
| Proctoscope (anal speculum, Gologher) | | |
| child size | 1 | 6cms |
| adult size | 1 | 7.5cms |
| Sigmoidoscope, complete with pumps : | | |
| Child size | 1 | |
| Adult size | 1 | |
| Light source with cable to fit sigmoidoscope | 1 | |
| Biopsy forceps | 2 | |
| Gallstone forceps (Desjardin) | 1 | |
| Lacrimal probes, set of 3 | 1 | |
| Crushing clamps (Payr): small | 2 | 21 |
| large | 2 | 26 |
| Malleable copper retractors (spatulae) | 2 | |
| Occlusion clamps (Doyen) straight | 2 | 22.5 |
| curved | 2 | 22.5 |
| Intestinal tissue holding forceps (Babcock) | 4 | 24 |
| Glass rods | 2 | |
| <u>Chest instruments</u> (Not required in maternity homes) | | |
| Chest drainage set, including tube and calibrated bottle | 1 | |
| <u>Orthopaedic instruments</u> (for closed reductions, amputations and skeletal traction's for fracture femur) | | |
| Plaster instruments : | | |
| plaster saw (tenon) | 1 | |
| plaster saw (Engel) | 1 | |
| shears (Stille) | 1 | 46 cms |
| scissors (Bohler) | 1 | 25 cms |

| | | |
|---|--------|---------------|
| bandage scissors (lister) | 1 | |
| Pneumatic tourniquet | 1 | |
| Rubber bandages (Esmarch) | 2 | |
| Pius (sternmaun) with covers for ends | | |
| Hand chuck for introducing pens (T-handle) | 1 | |
| Stirrups (Bohler) | | |
| Hand drill and drill bits (Zimmer) | 1set | |
| Mallet (Heath) 1 38mm head | 1 | 38 mm head |
| Small mallet | 1 | |
| Straight osteotomes (stille) : broad | 2 | 18x160mm |
| Narrow | 2 | 6x160mm |
| Straight chisels (stille) | 2 | |
| Amputation knife | 1 | 20cm |
| Gillies saw | 1 | |
| Compound action bone cutting forceps | 1 | 19cm |
| Skull callipers (Nutch field)- (optional) | 1 | |
| <u>Urogenital instruments</u> (Some of these may be required in maternity homes) | | |
| Curved urethral bougies | 2sets | various sizes |
| Straight bougies | 2 sets | various sizes |
| Filiform bougies | 2 sets | 33cm long |
| Suprapubic trocars and cannula | 1 | |
| Catheter introducer (Foley) | 1 | |
| <u>Vascular instruments</u> | | |
| Bull dog clamps | 4 | 22mm |
| Clamps (Satinsky), with 3 different blade shapes | 1set | |
| (vascular) Narrow jaw needle holders | 1 | 17.5 cm |
| (vascular) Plain forceps | 1 | |
| <u>Gynaecology instruments</u> (Surgical nursing homes would require a few of these instruments) | | |
| Vaginal Specular (Sims) : small | 1 | 1 |
| large | 1 | 3 |
| Weighted vaginal speculum (Auvard) | 1 | 38x75mm |
| Vulsellum forceps (Teale or Duplay) | 2 | 28cm |
| Vaccum extraction apparatus | 1 | |

| | | |
|---|---------|---------------------------------------|
| Amniohook | 1 | |
| Uterinesound (Simpson) | 1 | 30cm |
| Double ended uterine dilators (set of 6) | 1 | 30cm |
| Uterine curettes (Sims) | 1set | 26x7mm to 26x14 mm (various sizes) |
| Ovum forceps (de Lee) | 1 | 24cm |
| Cranial perforator | 1 | |
| Straight hysterectomy forceps (pean) | 6 | 22.5cm |
| Craniotomy forceps | 2 | |
| Uterine hemostasis forceps (Green Armytage) | 8 | 20cms |
| Obstetric forceps low | 1 | |
| mid cavity | 1 | |
| Retractor (Doyen) | 1 | |
| Interior vaginal wall retractors | 2 | |
| Punch biopsy forceps | 1 | |
| Endometrial biopsy cannula | 1 | |
| Suction cannulas, set of 4 | 1 | |
| <u>Obstetric instruments</u> (Some of these may be needed for General Surgery) | | |
| LSCS tray : | | |
| Curved dissecting scissors | 1 pair | |
| Scalpel handle and blade | 1 | |
| Short dissecting scissors | 1 pair | |
| Long dissecting scissors | 1 pair | |
| Stitch scissors, | 1 pair | |
| Small, curved artery forceps | 6 pairs | |
| Small, straight artery forceps | 6 pairs | |
| Large, curved artery forceps | 6 pairs | |
| Large straight artery forceps | 6 pairs | |
| Needle holder, long | 1 | |
| C- shaped abdominal wall retractors | | |
| Self-retaining retractor | 1 | |
| Dissecting forceps, toothed | 1 pair | |
| Long dissecting forceps, non-toothed | 1 pair | |
| Tissue forceps (Allis) | 2 pairs | |
| Tissue forceps (Duval) | 2 pairs | |
| Tissue forceps (Babcock) | 2 pairs | |
| Sponge forceps | 4 pairs | |

| | | |
|--|-------------|-----------------------|
| Malleable copper retractors (spatular) | 2 | |
| Occulsion clamps, straight | 2 | |
| Curved | 2 | |
| Crushing clamps, large | 2 | |
| small | 2 | |
| Syringe 10 ml with needle | 1 | |
| Syringe 20 ml with needle | 1 | |
| Sutures No. 1, 0 and 2/0 and 3/0 thread, ties and with needles | | |
| Sutures No. 1, 0 and 2/0 nylon, ties and with needles | | |
| Suction nozzle | 1 | |
| Diathermy electrode | 1 | |
| Flexible probe, with round point | 1 | |
| Grooved director | 1 | |
| Nasogastric tube | 1 | |
| Towel clips | 6 | |
| Stainless steel bowls | 2 | |
| Kidney trays | 2 | |
| Uterine hemostatic forceps (Green Armytape) | 8 pairs | |
| Obstetric forceps | 2 pairs | (1 low, 1 mid cavity) |
| Vaginal speculum | 1 | |
| Suction catheters | | |
| Linen tape | | |
| Gauze swabs | | |
| Abdominal packs | 5 | |
| Dissecting gauze rolls | 10 | |
| Antiseptic solution | | |
| Adhesive tape | | |
| Tubing for tension sutures | | |
| Drainage tubes | | |
| Safety pin | 1 | |
| Colostomy bags (optional) | | |
| Sterile drapes | | |
| Sterile gloves, at least | 3 pairs | |
| Dilatation and Curettage | | |
| Vaginal speculum | 1 | |
| Vulsellum forceps | 1 pair | |
| Uterine sound | 1 | |
| Uterine dilators | 6 (one set) | |

| | | |
|-------------------------------------|--------------|--|
| Uterine curette | 1 (at least) | |
| Sponge forceps | 2 pairs | |
| Retractor for anterior vaginal wall | 1 | |
| Gauze swabs | | |
| Vaginal pad | | |
| Antiseptic solution | | |
| Kidney tray | | |
| Sterile drapes | | |
| Sterile gloves | 1 pair | |

**Operation Theatre
Equipment For Surgery And Obstetrics/Gyn**

| Equipment | Quantity | Size/s |
|---|----------|------------------------------|
| Fixed equipment | | |
| Fixed operating room light (shadowless) | 2 | not less than 45 cms. |
| Scrub basins with elbow operated taps | | |
| Exhaust fans | | |
| Electric autoclave with horizontal drum [High speed instruments sterilizer] | 1 | 400mm diameter x 600mm depth |
| Electric sterilizer (water bath large size) for boiling instruments | 1 | |
| Hydraulic Operating table with mattress (Orthopaedic attachment optional) | 1 | |
| Utensil sterilizer for bowls, boiling type | 1 | |
| Forceps sterilizer (cheatle), heavy duty | | |
| Instruments trolleys | 4 | |
| Anaesthetic trolleys | 2 | |
| Drums trolley | 1 | |
| Portable aspirating surgical sucker, electric Or Central suction | 2 | |
| Foot operated suction | 1 | |
| Cylindrical sterilising drums | | |
| 24 cms. diameter | 4 | |
| 29 cms. diameter | 4 | |
| 34 cms diameter | 4 | |
| Stainless steel buckets with covers | 4 | |
| Revolving operating stools of adjustable height | 4 | |
| Foot stools | 2 | |
| Dressing trays:small | 4 | |
| medium | 4 | |
| large | 4 | |
| Portable operating room lights, with stands | 2 | |
| Diathermy machine | 1 | |
| X-ray viewing box (to hold at least 2 X-rays at a time) | 1 | |
| Patient transfer trolley | 1 | |
| Covered instruments trays | 4 | |
| Covered instrument/ dressings trays | 4 | |
| Catheter trays | 4 | |
| Stainless steel jugs, 3 litres | 2 | |
| 4 litres | 2 | |
| Stainless steel funnels, 200 ml | 2 | |
| Self-retaining balloon catheters (Foley) | | |
| Urinary bags | | |
| Graduated drainage (collecting) bottles, glass, 1.5 litres | | |
| Surgeon's latex gloves, sizes 6, 6.5, 7, 7.5, 8 | | |
| Colostomy bags | | |
| Nasogastric tubes (Levin) 12, 14, 16, 18 | | |
| Polythene nasal feeding tubes infant size | 8 | |
| and adult size | 16 | |
| Asepto syringe | 2 | |

| | | |
|--|------------------|--|
| Insuline syringe 1ml | | |
| Tuberculin syringe 1ml | | |
| Hypoderine syringes 2, 5, 10, 20, 50 ml | | |
| Hypodernine needles | | |
| Face masks and caps | 18 to 26 | |
| Washable footwear | | |
| Drapes | | |
| Gowns | | |
| Surgeon's handbrushes with nylon bristles | | |
| Sutures / ligatures: | | |
| Chromic catgut and plain catgut with and without needles | | |
| Nylon and silk with and without needles | | |
| Soft, stainless steel wire | | .35 mm thick (about size 0) |
| Regular eye needles, assortment of different types and sizes | | |
| Scalpel blades, No. 10, 11, 12, 15, 21, 22, 23 | 100 of each size | |
| Stitch removal scissors | 2 | |
| Heavy-duty "counter" scissors | 2 | |
| Disposable scalp-vein infusion sets/ | | |
| Blood transfusion sets. | | |
| Polythene tubing no. 21, 22 for venesection in children | | |
| Latex tubing | | |
| Soft Rubber tubing | | |
| Connectors for tubing, assorted, including T-shape and Y-shape | | |
| Utility apron, opaque plastic | 2 | |
| Plastic sheeting | | |
| Rubber sheeting | | |
| Corrugated rubber drain | | |
| Gauze bandages | | 25 mm x 9 m 50 mm x 9 m 75 mm x 9 m 20 cm x 6 m |
| Absorbent gauze for dressings, swabs, abdominal packs, petroleum gauze, etc. | | 1 m x 100 m 25 cm x 10 cm |
| Surgical adhesive tape | | |
| Absorbent cotton wool | | |
| Eye pads | | |
| Eye shields | | |
| Umbilical tape | | 3 mm wide |
| Safety pins | | medium size |

| | | |
|--|---------------------------------|---|
| Rubber bands assorted | | |
| All metal, safety razors | | |
| Double edged safety razor blades | | |
| Battery operated wall clock, with hands showing time in hours, minutes and seconds | 1 | |
| Laboratory balance, 2kg capacity | 1 | |
| Sand bags | | |
| Stainless steel ruler | 1 | |
| B.P. apparatus | 1 | |
| Stethoscope | 2 | |
| Clinical thermometer (oral) | 1 | |
| Torch (large size) battery operated | 1 | |
| Orthopaedic equipment (for general surgery) | | |
| Gauze bandages | | 10 cm & 15 cm wide |
| Crepe bandages | | |
| Plaster of paris powder | | |
| Multipurpose board splints | 1 set | 3 sizes |
| Anaesthetic equipment | | |
| Anaesthetic face masks infant size to large adult size 2 of each size | Total 14 | |
| Oropharyngeal airways, | Total 12 | sizes 00 to 52 of each size |
| Laryngoscopes | 2 handles + 3pairs of blades | |
| Spare bulbs of laryngoscopes | 12 | |
| Batteries for laryngoscopes | 30 | |
| Endotracheal tubes, | | sizes 2.5 - 10 mm (external diameter) in 0.5 mm steps with cuff |
| Magill's intubating forceps | 2pairs | |
| Endotracheal tube connectors 3 for each tube size | | |
| Catheter mounts | 4 | |
| Breathing hose and connectors | | |
| lengths of 1 meter antistatic tubing | 2 | |
| lengths of 30 cm tubing for connection of vaporizers | 4 | |
| T - piece for oxygen enrichment | 1 | |
| Breathing valves (universal non-rebreathing type) child size | 2 | |
| adult size | 2 | |

| | | |
|--|---|--|
| Breathing systems | | |
| - Boyles apparatus | 1 | |
| In areas where Nitrous oxide not easily available | | |
| - Self-inflating bellows or bags, child size 1 adult size | 1 | |
| - Anaesthetic vaporisers for ether, halothane and trichloroethylene (draw over type) | | |
| Needles and cannulas for intravenous use | | |
| Intravenous infusion sets | | |
| Spinal needles, range of sizes, 18 - gauge to 25- gauge | | |
| Ambu's bag - 2 numbers | | |

Delivery suite : Equipment & Instruments (for maternity homes only)

a. Examination and preparation room

- Obstetric examination table with light
- Enema can set
- Double edged safety razor blades
- Gowns, towels, drapes
- Gloves
- Soap, towel
- Facility for warm water throughout the day

b. Labour room

- Cot (one per room) pillows, pillow covers, mattress
- Clean bedsheets

c. Delivery rooms

- Delivery table/labour table
- 4 Opaque Plastic aprons
- Gloves
- Drapes
- Dressing trolley with catheters
- O₂ cylinder with trolley and masks
- Suction apparatus

Episiotomy set

- Episiotomy scissors **4-5 sets**
- Small artery forceps 1 pair
- Dissecting forceps, toothed 4 pairs
- Dissecting forceps, toothed 1 pair

| | |
|--|---------|
| Needle holder | 1 |
| Sponge forceps, | 2 pairs |
| Syringe 5 ml with needle | 1 |
| Local anaesthetic agent | |
| Sutures and ligatures, O chromic catgut, ties and with needles | |
| Antiseptic solution | |
| Gauze swabs | |
| Sterile pad | |
| Suction catheters | |
| Kidney dish | 1 |
| Sterile drapes | |
| Sterile gloves | 1 pair |
| Delivery tray | |
| Bowl for placenta - steel | |
| Plain rubber catheter | |
| Artery forceps | |
| Kidney tray | |
| Baby tray | |
| Tray | |
| Artery forceps | |
| Clamps | |
| Kidney tray | |
| Mucus suction with catheter | |
| Mucus suckers | |
| Scissors for cutting cord | |
| Thread for tying cord | |
| Resuscitation tray for babies | |
| Mucus suckers | |
| Ambu bag | |
| Oxygen mask | |
| Endotracheal tubes | |
| Laryngoscope with appropriate blades | |
| Obstetric forceps | |
| Low | 1 |
| Mid cavity | 1 |
| - Breast pump | |
| - Doppler for foetal heart sounds | |
| Vaccum extraction apparatus with suction caps of all sizes | |
| Foleys Catheters | |

Equipment for Service Zone

Laundry

Linen store/ General store shelves for storage

Medical store

Medical records room - Facilities for storage of records so that they are not affected by bad weather and can be accessed at any time.

Generator

Nurse's duty room- one cot with mattress, pillow, 2-3 chair and a table, cupboards

Doctors' duty room - One cot with mattress, pillow

- One table

- One chair

- Cupboards

Minimal Functional And Space Requirements

To facilitate planning and framing of the structural grid a usable space planning module of 14 sq.m based on basic space unit of 3.5 sq.m has been stipulated in order to rationalise the requirements for various facilities in the hospital. This space planning module is derived by assuming a planning grid of 1.6 m. Six such grid units i.e. 3.2 x 4.8 m will lead to a carpet area of about 14 sq.m after deducting the space taken by walls. All floor space requirements recommended for various facilities in respective table of the various sections of general hospital are based on above basic space unit. Fractional variation in floor spaces in actual planning may be ignored.

Area requirement for the nursing home is to be derived from carpet area of various functions and services as outlined in the following tables by applying conversion factor (40%) for circulation space. This circulation space will include corridors.

Space requirements have been divided into following categories:-

- - Entrance Zone
- - Ambulatory Zone
- - Diagnostic Zone
- - Intermediate Zone
- - Critical Zone
- - Service Zone

Entrance Zone

| | |
|---|----------|
| 1. Entrance hall with Enquiry counter with cash counter and records area (to maintain few OPD records) | 28 sq.m |
| 2. Pharmacy | 17.5sq.m |

Ambulatory Zone

| | |
|---|-----------|
| 1. Medical clinic (consultation and examination room) | 17.5 sq.m |
| Waiting area | 21 sq.m |
| 2. Surgical clinic (consultation and examination room) | 17.5 sq.m |
| Waiting area | 21 sq. m. |
| 3. Casualty and emergency care (optional) | 17.5 sq.m |
| 4. Treatment and dressing | 21 sq.m |
| 5. Injection room (optional) | 17.5 sq.m |

Note: 3, 4 and 5 will be required in all types of nursing homes.

6. Obstetric and gynaecological clinic: In case of a purely maternity home, only the OBG OPD as detailed below would be needed.

The clinic should include a separate registration, consulting-cum-examination room and toilet in order to ensure privacy. The clinic should be planned close to inpatient ward units to enable them to make use of the clinics at times for ante and post-natal care. The clinic should also be at a convenient distance from other clinics in the OPD.

| | |
|-----------------------------------|-----------|
| Reception and registration | 14 sq.m |
| Consultation and examination room | 17.5 sq.m |
| Toilet cum changing room | 10.5 sq.m |
| Waiting area | 21 sq. m |

In case of nursing homes where OPD facilities in other disciplines are also provided care should be taken to provide privacy and separate toilet facilities for obstetric patients.

7. Nursing station for OPD block with clean and dirty utility 17.5 sq.m

8. Janitor's closet 3.5 sq. m

The outpatient department should be located such that patients visiting the outpatient department need not pass through inpatient areas.

Diagnostic zone (optional)

This zone should ideally be interposed between OPD and IPD.

1. Pathology - including reception and specimen collection (privacy for blood collection), records,

| | |
|--------------------------|-----------|
| Laboratory space | 17.5 sq.m |
| Toilet room (compulsory) | 3.5 sq.m |

2. Radiology -

| | |
|-------------------------------------|-----------|
| Radiography room (with records) | 17.5 sq.m |
| Film developing, processing, drying | 10.5 sq.m |
| Toilet room | 3.5 sq.m |

The illustrations provided are not meant to be planning specimens. They are meant only to show the utilisation of space under each head. These spaces and equipment within them have been drawn as far as possible to scale.

Critical Zone

This zone is required in surgical and maternity homes. This zone consists of the **Operating Suite** and **Delivery Suite**. This is technically a therapeutic aid in which a team of surgeons, anaesthetists, nurses, gynecologists and sometimes pathologist/s and radiologist/s operate upon or care for the patient.

The critical zone shall be located and arranged to prevent non-related traffic through the suites.

When delivery and operating rooms are in the same suite, access and service arrangements should be such that neither staff nor patients need to travel through one area to reach the other.

If outpatient surgery (i.e. surgery which is performed without anticipation of overnight patient care) is to be integrated with hospital inpatient surgery, at least one room should be specifically designated for outpatients to change from street clothing to hospital gowns and to prepare for surgery.

Room for post anaesthesia recovery of outpatient surgical patients shall be provided. Depending on the patient load, this room may also serve the purpose of a supervised 'recovery lounge' for patients who do not require post anaesthesia recovery but need additional time for their vital signs to stabilize before safely leaving the facility. Such a room should have an area of at least 21 sq.m. It should be provided with two cots, have convenient access to toilets large enough to accommodate a patient and an assistant, space for one to two family members, provisions for privacy and a small space which can serve as a nurses counter.

Operating suite

Basic Design Standards

Protective Zone: Consisting of Nursing Station with storage facility, changing rooms, staff arrive through this zone and proceed via changing areas dressed for their task.

Clean Zone: This includes the recovery room. It is principally the corridor linking the transfer bay to the theatre suite. Patients are brought from the ward and should not cross this zone in their

ward- clothing which is a great source of infection. Changeover of trolley should be affected just before the clean zone.

** All staff should enter from a separate route and through a set of change rooms and through an air lock. They should communicate with the sterile corridor. A shoe change and gowning space near the air lock should be provided.*

Aseptic or sterile zone: It consists of operation theatres, sterilisation, theatrepack preparation and sterile storage, scrub up and gowning rooms.

Disposal zone: Also erroneously called the dirty zone. Soiled instruments and dressings are transacted through this area for washing and re-sterilisation or disposal.

Minimum space requirements

A. Protective zone

| | |
|--|-----------|
| Doctors' and nurses' change room with toilet | 10.5 sq.m |
| Nursing station with storage area (sterile) | 10.5 sq.m |

B. Clean Zone

| | |
|---|---------|
| 1 Recovery room with 2 beds | 21 sq.m |
| 2 Corridor space in the clean zone should have minimum width of | 3.7sq.m |

C. Aseptic Zone

1. Operation Theatre (This space is worked out on the basis of space required for one OT table, one Boyle's apparatus, one anaesthetist, one operating surgeon, 2 OT assistants, 2 nurses, space to move around.) 35 sq.m

2. Scrub up and gowning 10.5 sq.m

3. Instrument sterilisation 10.5 sq.m

4. Theatre pack preparation area with sterile storage 10.5 sq.m

D. Disposal Zone

1. Dirty utility

10.5 sq.m

Delivery suite (Required for nursing homes providing maternity facilities)

All maternity homes and all nursing homes offering maternity services shall make provisions for a delivery suite as under, over and above the aforementioned facilities necessary for an operating suite.

A. Examination and Preparation room with changing and toilet facilities

14 sq.m

B. Labour room/s

10.5 sq.m

Two labour rooms should be provided for every 10 maternity beds or part thereof. These rooms may be constructed preferably in the form of cubicles. They should be situated close to the delivery room. In case combined with the "examination and preparation room," the area standards should be maintained.

NOTE: In facilities which have only one delivery room, at least one of the labour rooms shall be 21m² so as to function as a 'delivery room'.

C. Delivery room

21 sq.m

Delivery rooms are to be provided at the rate of one for every 20 beds or part thereof. This room should ideally be situated close to the operation theatre.

NOTE 1: In a maternity home with twenty beds, there should be

- Three labour-rooms each of size 10.5 sq.m
- One labour room of size 21 sq.m
- One delivery room of size 21 sq.m

NOTE 2: Labour/Delivery/Recovery (LDR) and Labour /Delivery/ Recovery / Postpartum (LDRP) facilities

When provided by the functional programme, delivery procedures in accordance with birthing concepts may be performed in the following facilities.

LDR/LDRP rooms shall have a minimum of 21 sq.m. If an operating room is not immediately accessible to the LDR/LDRP facilities, at least one room shall be equipped for emergency cesarean section and shall have not less than 35m² of clear area. Communication system, resuscitation facilities (for mother and newborn) should be provided for.

Each LDR/LDRP room shall be for single occupancy and have access to an adjoining toilet with shower or tub. One toilet may serve two LDR/LDRP rooms. Each room shall be equipped with a lavatory for hand washing (hand-washing sink with wrist blades is acceptable for scrubbing).

Examination lights may be portable, but must be immediately accessible.

| | |
|--|-----------|
| E. Dirty utility (exclusively for the Delivery suite) | 7.0 sq.m |
| F. Nursing station | 10.5 sq.m |
| G. Sterilising room | 10.5 sq.m |
| H. Scrubup and gowning | 10.5 sq.m |
| I. Theatre pack preparation area with sterile storage | 10.5 sq.m |
| J. Doctors' and nurses' change room with toilet | 10.5 sq.m |

Spaces required for F to J may be shared with the operating suite and should be arranged in the same degree of asepsis as for operating suite.

| | |
|---|----------|
| K. Sluice room | 7 sq.m |
| L. Area for storing stretchers out of the path of normal traffic | 3.5 sq.m |
| M. Janitor's closet | 3.5 sq.m |

Intermediate zone

Inpatients nursing units

Wards should be relegated at the back to ensure quietness and freedom from unwanted visitors.

Normally a ward may comprise of six to eight beds.

An area of 7 sq.m per bed is recommended and should be arranged with a minimum distance of 2.25m between centres of two beds and a clearance of minimum 200mm between the bed and wall. This area is exclusive of toilet rooms, closet, lockers, ward robes, etc.

Each ward may accommodate a maximum of 8 patients. This would conveniently correspond to the ratio for provision of W.C. facilities.

Separate ward units shall be provided for male and female patients.

Preferably, separate wards should be provided for medical and surgical patients. Patients with infectious diseases should not be admitted into such wards.

Maternity wards for ante - natal and post-natal patients should be separate.

A nursery unit should be provided in nursing homes providing obstetric facilities.

Every patient shall have access to a toilet area without having to enter the general corridor area.

In wards, visual privacy shall be provided for each patient according to the need.

In maternity homes an arrangement must be possible to isolate a patient of eclampsia. A specific eclampsia room/ward may be provided for every twenty post natal beds.

| | |
|--|------------|
| 1. Patient area | 7 sq.m/bed |
| 2. Nursing station (including work area, space for cabinets, space for emergency trolley, medicine trolley, refrigerator and toilet) | 14 sq.m |
| 3. Treatment room | 10.5 sq.m |
| 4. Ward store | 10.5 sq.m |
| 5. Trolley bay | 3.5 sq.m |
| 6. Janitor's space | 3.5 sq.m |
| 7. Day space (optional) | 14 sq.m |
| 8. Relatives waiting area (optional) | 14 sq.m |
| 9. Sluice room (one per ward) | 10.5 sq.m |
| 10. Patients' toilet (specified under sanitary requirements) | 10.5 sq.m |
| 11. Space for pantry (optional if warm food can be provided directly for the kitchen) (in all maternity homes and in nursing homes with more than twenty beds) | 10.5 sq.m |

Note:

Day space: For those patients who are allowed to sit and relax, a room shall be provided in the ward unit itself. It should afford an easy access to patients and supervision by the nursing staff and should be provided with easy chairs, book-shelves and small tables. It may also serve as a dining space.

Sluice Room: This room is meant for emptying and cleaning bed pans, urine bottles and sputum mugs, disposing of used dressing and similar material, storage of stool and urine specimens, cleaning mackintoshes/rubber sheets.

Ward Pantry: For collection and distribution of meals and preparation of beverages. Should have facilities for storing cutlery, etc.

Postnatal wards: In case rooming - in concept is being followed, bassinets would have to be provided with every bed. The space requirement, accordingly, will be higher.

NURSERY FOR NEW BORN - all nursing homes providing maternity facilities must provide for a nursery for normal babies. An area of 10.5 sq. m may be ear-marked for the same. Floor space

per bassinet would be 3.5sq. m.

A FORMULA-CUM-BREAST FEEDING room also needs to be provided in maternity homes. An area of 10.5sq.m near the nursery would be sufficient.

Service zone

1. Laundry: For a nursing home having less than 30 beds manual washing facilities may be used. For this one corner of the nursing home complex may be used. Space would be required for following:

- Dirty clothes receiving area 10.5 sq.m
- Manual pressing 14 sq.m
- Clean clothes storage 10.5 sq.m

(optional. This function may be carried out in the manual pressing area)

2. Dietary facilities: All nursing homes having more than twenty five beds and all maternity homes shall provide dietary services.

- Cooking area 28 sq.m
- Washing area 21.0 sq.m
- (for washing pots, trolleys, dishes)
- Garbage collection 3.5 sq.m
- Dry ration storage area 10.5 sq.m

(Optional. This function maybe carried out in the cooking area)

3. Space for storage of oxygen cylinders: Enough reserve cylinders should be kept to last out for a week.

Space for storage of **Nitrous oxide cylinders.** Enough reserve cylinders shall be stored to complete at least one day's procedures.

If a **compressor** is to be used for central suction then space would have to be provided for the same

4. Generator: In case of a power failure, all equipment, instruments and electrical points of the nursing home (including those for refrigerator, fans, lights) should be able to work as normal.

The capacity of generator required should be accordingly calculated.

It should be installed in a place where it will not disturb patients and traffic. It may need to be

covered with a casing to control noise.

| | |
|---|-----------|
| 5. Medical store | 10.5 sq.m |
| 6. General store [may be combined with linen store(optional) 10.5 sq.m] | 10.5 sq.m |
| 7. Medical records room | 10.5 sq.m |
| 8. Administrator and nursing-in-charge office | 10.5 sq.m |
| 9. Nurses changing/duty room with toilet | 10.5 sq.m |
| 10. Doctors' duty room with toilet | 10.5 sq.m |

Using the above tables, space requirement work out as follows :

- for a medical nursing home 28.46 sq. m/bed
- for a surgical nursing home 33.53 sq. m/bed
- for a maternity home 40.69 sq. m/bed

Building Engineering Environmental Standards

1. Location

Hospital sites with high degree of sensitivity to outside noise should be avoided. The site should be compatible with other considerations such as accessibility and availability of services. The buildings should be so planned that sensitive areas like wards, consulting and treatment rooms and operation theatres are placed away from the outdoor sources of noise.

2. Ceilings

The finishes of all exposed ceilings and ceiling structures in areas normally occupied by patients or staff, and those in food preparation or food storage areas shall be readily cleanable with routine housekeeping equipment. Ceilings and walls in operating and delivery rooms shall be free of fissures, open joints, or crevices that may retain on permit passage of dirt particles. Ceiling should be R.C.C.

3. Floor Height

The height of all the rooms in the hospital should not be less than 3.00m and not more than 3.65m, measured at any point from the surface of the floor to the lowest point of the ceiling. Minimum head room, such as under the bottom of beams, fans and lights shall be 2.5m measured vertical under such beam, fan, light. The design of building shall ensure control of noise due to walking, movement of trollies, etc.

4. Floors and Walls

The architectural finishes in hospitals shall be of high quality in view of maintenance of good hygienic conditions. All wards should have dado to height of 1.2m. The walls should be impervious with oil paint. Floors should be covered with good quality mosaic tiles in the minimum. The aim being that floor materials shall be readily cleanable and appropriately wear-resistant. In all areas subject to wet cleaning, floor materials shall not be physically affected by liquid germicidal and cleaning solutions. Floor subject to traffic while wet, including showers and bath areas, shall have a non-slip surface. Floors should be smooth so as to allow smooth passage of wheelchairs and trollies.

Wall finishes shall be washable and, in the proximity of plumbing fixtures, shall be smooth and moisture resistant. Wall bases in areas that are frequently subject to wet cleaning shall be covered with the floor; tightly sealed within the wall; and constructed without voids.

Floor and wall areas penetrated by pipes, ducts, and conduits shall be tightly sealed to minimize entry of rodents and insects. Joints of structural elements shall be similarly sealed.

Operating room/Labour room/Delivery room should be made dust-proof and moisture-proof. Corners and junctions of walls, floors and ceiling should be rounded to prevent accumulation of dust and to facilitate cleaning. Walls of operation theatre, delivery room, recovery room, scrub room should be fully covered with dado tiles.

In other areas of critical zone, tiling should be provided upto a height of 1.2m.

5. Doors:

The minimum door width for patient use shall be (2 feet 10 inches) 86cms. The minimum width of doors to rooms used by hospital inpatients transported in beds/trolleys shall be 1.2m. Height of doors should be not less than 2.13metres(7 feet)

Rooms which contain bathtubs, Sitz baths, showers and/or water-closets for inpatient use shall be equipped with doors and hardware permitting emergency access from the outside. When such rooms have only one opening or are small, the doors shall open outward or in a manner that will avoid pressing a patient who may have collapsed within the room.

All doors between corridors, rooms or spaces subject to occupancy, except elevator doors, shall be of the swing type.

Doors, except those to spaces such as small closets not subject to occupancy, shall not swing into corridors in a manner that might obstruct traffic flow or reduce the required corridor width.

In the operation suite and Delivery suite, all doors should be two leaf type with a minimum width of 1.5m and shall have self closing devices.

6. Windows

Wards and rooms for the admission of light and air shall have one or more apertures such as windows (also sufficient members of fans and lights) opening directly to the external air or into an open verandah. The minimum aggregate areas of such opening, excluding doors, inclusive of frames shall be not less than 20 percent of the floor area in case such apertures are located in one wall and not less than 15 percent of the floor area in case such apertures are located in two opposite walls at the same sill level.

Note: If a window is partly fixed, the openable area shall be counted.

7. Corridor

Minimum public corridor width shall be 5 feet (1.52 metres). Work corridors less than 6 feet (1.82 metres) long may be 4 feet (1.22 metres) wide.

8. Water Supply, Plumbing And Other Piping Systems

Arrangement shall be made to supply 350 litres⁴ of potable water per day, per bed to meet all requirements (including laundry), except fire fighting. Storage capacity for two days requirement should be made on the basis of above consumption.

Systems should be designed to supply water at sufficient pressure to operate all fixtures and equipment during maximum demand.

Separate reserve emergency overhead tank shall be provided for operation theatre.

Hot water supply to wards and departments of the general hospital shall be provided by means of electric storage type water heaters or centralised hot water system of capacity depending upon the need of hot water consumption.

Filtered and soft water supply is needed in pathology laboratories and shall be supplied as required.

Cold water supply is needed for processing tanks in film developing room and shall be supplied as required.

Within the operation theatre there should not be any drains.

The material used for plumbing fixtures shall be non-absorptive and acid-resistant

Insofar as possible, drainage piping shall not be installed within the ceiling or exposed in operating and delivery rooms, nurseries, food preparation centres, food serving facilities and other sensitive areas. Where exposed, overhead drain piping is unavoidable, special provisions shall be made to protect the space below from leakage, condensation or dust particles.

Pipe line network shall be laid down to transmit oxygen and Nitrous oxide gases and suction line to the departments and wards as detailed below for nursing homes with more than 20 beds. The three pipelines have to be of different colours conforming to a laid down standard and mounted on wall or ceiling surface.

Precautions should be taken regarding the storage of oxygen and nitrous oxide.

For more than 20 beds

| | Oxygen | Vaccum | Nitrous oxide |
|---|---|---|--------------------------------------|
| Operation | Two outlets | Three outlets | Two outlets |
| Delivery room, LDR room, Obstetric recovery room | Two outlets per room | Three outlets per room | One outlet per room |
| Labour room | Separate outlet for each bed | One outlet accessible to each bed | One outlet accessible to each bed |
| Recovery | Separate outlet for each bed | Separate outlet for each bed | One outlet accessible to each bed |
| Nursing | One outlet accessible to each bed | One outlet accessible to each bed | One outlet accessible to each bed |
| First aid and emergency treatment | Separate outlet for each bed | Separate outlet for each bed | Separate outlet for each bed |

In all these areas keep one O₂ cylinder as spare

For less than 20 beds

One suction apparatus for every eight beds.

One suction apparatus for operating theatre.

One suction apparatus for delivery room.

One suction apparatus for emergency and casualty patients. At least two of these should be foot operated.

Oxygen cylinders

Operating theatre - Three cylinders

Wards - Two cylinders/8 beds

Delivery room - Two cylinders

Emergency - Two cylinders

Stock for one week should be maintained

In each of these areas flowmeters and trolleys shall be provided.

9. Electrical Standards

Points for lighting, fans etc. as may be required in the facility.

Switchboards and Power points

The main switchboard shall be located in an area separate from plumbing and mechanical equipment and shall be accessible to authorised persons only. Switchboards shall be convenient for use, readily accessible for maintenance, away from traffic lanes, and located in a dry, ventilated space free of corrosive or explosive fumes, gases, or any flammable material. Overload protection devices shall operate properly at ambient room temperatures.

Panel boards

Panel boards serving normal lighting and appliance circuits shall be located on the same floor as the circuits they serve. Panel boards for emergency circuits shall be located on each floor that has major users.

10. Access Routes to various Facilities of the Nursing Home:

The nursing home shall be easily accessible to patients. Access up till the casualty/emergency section of the hospital should be easily possible. A ramp may need to be constructed for the same.

Electrically operated automatic control lifts shall be provided in all categories of hospitals having more than one storey. The lift should be easily accessible from all entrances of the hospital. Lifts should be conveniently situated near ward and operation theatres departments. There shall be sufficient space near the landing door for easy movement of stretcher/trolley. Lift should be large enough to accommodate a trolley, a wheel chair and 3-4 persons at a time.

A ramp leading to the topmost floor of the nursing home may be provided in addition to the stairs needed at places.

11. Communication system

An efficient communication system within the nursing home is necessary. An intercom system would be the best. If not possible softly ringing alarm bells with lighting up system should be installed connecting wards, nursery units, operation theatre, delivery room, labour room to the nursing stations.

12. Fire-fighting system

Efficient fire fighting systems should be installed in every nursing home.

13. Ventilation requirements for areas affecting patient care in nursing homes

The following table covers ventilation for comfort as well as for asperis and odour control in areas if acute care hospitals that directly affect patient care.

| Area | Minimum total air change per hour | Air movement relationship to adjacent area |
|---------------------------|--|---|
| Operating room | 15 | Out |
| Delivery room | 15 | Out |
| Newborn nursery | 6 | - |
| Recovery room | 6 | - |
| Labour room | 2 | - |
| Wards | 2 | - |
| Patient corridor | 2 | - |
| Bathroom/toilets | 10 | In |
| Steriliser equipment room | 10 | In |

Design of the ventilation system shall in so far as possible provide that air movement is from "clean to less clean" area.

14. Requirements for sanitary fitments in nursing homes for patients

INPATIENT WARDS AND NURSING UNITS

- i. Water closets:
 - 1 for every 8 beds or part thereof (male)
 - 1 for every 6 beds or part thereof (female)
- ii Ablution taps
 - 1 for each water closet plus one water tap with draining arrangement in the vicinity of water closets.
- iii Urinals
 - 1 for every 12 beds or part thereof (males only)
- iv Wash basin
 - 1 for every 12 beds or part thereof.
- v Baths
 - 1 bath with shower for every 12 beds or part thereof.
- vi Bed pan washing sinks
 - 1 for each ward In dirty utility and sluice room
- vii Cleaner's sinks and sink/slab for cleaning mackintosh
 - 1 for each ward

OUTPATIENT BLOCK

For the OPD block separate toilets are to be provided for the use of males and females. The same toilets may be used by the staff also.

The pathology department must maintain a separate toilet.

The radiology department must have following special toilet facilities in case it carries out procedures like IVP.

| | For males | For females |
|------------------|---|--|
| i Water closets | 1 for every 40 persons or part thereof | 2 for every 50 or part thereof |
| ii Ablution taps | 1 in each water closet | 1 in each water closet |
| | Plus 1 water tap with draining arrangements shall be provided in the vicinity of water closet and urinals per lavatory block. | |
| iii Urinals | 1 for every 25 persons or part thereof | -- |
| iv Wash basin | 1 for every 50 persons or part thereof | 1 for every 50 persons or part thereof |

15 Waste Disposal:

This should be carried out by means of incinerator.

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Appendix I

Biosafety guidelines

1. Entry into Laboratory/work area should be restricted.
2. Staff should be provided with aprons for working in the laboratory.
3. Work surfaces should be disinfected when procedures are completed and at the end of each working day, 0.1% Hypochlorite solution is effective for the same.
4. Gloves should be worn for all manipulations of infectious material: Examination gloves of vinyl or latex must be used in laboratory, ward, operation theatre. General purpose utility gloves (i.e. rubber gloves or household gloves, reusable) must be used while cleaning instruments, decontamination procedures and other activities where manual dexterity is not required.
5. In operation theatres and delivery rooms, cleaning must be carried out every day. Cleaning with carbolic acid/phenol has to be carried out every week and swabs should be sent to laboratory for cultures. Fumigation must be done in case cultures turn out positive. Records for the same should be maintained so that they can be scrutinised periodically. All horizontal surfaces including floor should be mopped between cases.
6. All medical instruments should be soaked for 30 minutes in chemical disinfectant before cleaning. This will give further protection to the personnel from exposure to HIV during the process of cleaning.
7. The best form of disinfection is autoclaving. After this comes boiling for 20 minutes. In practical and field settings, high-level disinfection with chemicals is far less reliable than boiling.
8. Hepatitis vaccine should be provided for all personnel.

Appendix 2

“MINOR” SURGERY

It is a myth that “minor” and “intermediate” operations can be satisfactorily performed in small theatres or in treatment rooms.

Such surgery should be performed only in standard-sized theatres provided with the usual level of lighting, ventilation, equipment and staffing.

Such surgery may become major ones due to unforeseen circumstances (e.g. Rupture of uterus during termination of pregnancy).

General Surgery, OBG

Herniac Dilatation and curetage

Varicose veins avulsion Termination of pregnancy

Vasectomy Laparoscopic procedure

Manual dilatation of anus Polypectomy (cervical)

Endoscopy Cautery of cervix

Excision of swellings (lipoma, breast lump,

Sebaceous cyst) Marsupialization of Bartholin’s cysts

Appendix 3

**List of Participants for the Workshop on
"Physical Standards in Private Hospitals / Nursing Homes"**

Date: April 23, 1995

**Venue: ICSSR Conference Room, J. P. Naik Bhavan
University of Mumbai, Kalina, Santacruz East, Mumbai.**

1. Dr. Yash Lakhandwala Cardiologist ,KEM Hospital, Mumbai
2. Dr. Santosh Karmarkar, Padiatric Surgeon, Wadia Children's Hospital, Mumbai
3. Dr. Murlidhar V., Surgeon, Sion Hospital, Mumbai
4. Dr. Sanjay Nagral, Surgeon, KEM Hospital, Mumbai
5. Dr. S.K.Pandya, Head, Dept. Neurosurgery, KEM Hospital, Mumbai
6. Dr. Veena. J. Murlidhar, Medical Officer, Navi Mumbai Municipal Corporation, Navi Mumbai
7. Dr. Sham Ashtekar. Director, Bharat Vaidyak, Dindori, Nashik
8. Dr. Anil Pilgaokar, Forum for medical Ethics Society, Mumbai
9. Dr. Sharad Narvekar, Dy. Director of Health Services, Maharashtra, Mumbai
10. Dr. Satish Arolkar, Plastic Surgeon, Mumbai
11. Dr. B.M.Inamdar, Obstetrics & Gynaecology, Datta Maternity Home, Mumbai
12. Dr. Pawan R. Surekha, Paediatrician, Anand Nursing Home, Mumbai
13. Ms. Padma Prakash, Senior Assistance Editor, Economic and Political Weekly, Mumbai
14. Dr. Amar Jesani, CEHAT
15. Mr. Ravi Duggal, CEHAT
16. Mr. Sunil Nandraj, CEHAT
17. Ms. Hemalata Pisal, CEHAT
18. Mr. Anand Utekar, CEHAT
19. Ms.Archana Jadhav, CEHAT
20. Ms Asha Vadair, CEHAT