Summer Training at
Santokba Durlabji Memorial Hospital Cum Research Centre
Jaipur
(April 8-June 15, 2013)

- **Analytical Study of Nurse Staffing in Multispecialty Hospital**
- **Patient Complaints Analysis in a Multispecialty Hospital**

By
Soniya Sharma

Under the guidance of
Dr. Arindam Das

Post Graduate Diploma in Hospital and Health Management
2012-2014

Institute of Health Management Research,
Jaipur
2013

INSTITUTE OF HEALTH MANAGEMENT RESEARCH
1, Prabhu Dayal Marg
Sanganer Airport, JAIPUR - 302 011, INDIA
Tel. : 3924700, 2791431-32
Fax : 91-141-3924738
E-mail : ilhmr@lihmr.org
URL : http://www.lihmr.org
Gram : HEALTHINST

CERTIFICATE

This is to certify that Dr. Soniya Sharma student of Post Graduate Diploma in Hospital and Health Management (PGDHM) from Institute of Health Management and Research, Jaipur Batch 17th has undergone summer training in Santokba Durlabhji Memorial hospital cum research centre, Jaipur and has done following projects:

1. Analytical study of nurse staffing in a Multispecialty Hospital
2. Patient complaints analysis in a Multispecialty Hospital

The candidate has successfully carried out the mentioned studies assigned to her during summer training from 8th April 2013 to 15th June 2013 and her approach to study has been sincere, scientific and analytical.

I wish her success in all her future endeavors.

Arindam Das.

Dr. Arindam Das,
Associate Professor and Mentor
Affair, IHMR, Jaipur

Dr. Ashok Kaushik
Dean, Academics and Student affair
IHMR, Jaipur

SDMH/ADM/06

Santokba Durlabhji Memorial Hospital
cum
Medical Research Institute

sdmh
the hospital that cares

Your Ref. :

Our Ref. :

Date

No. 3352

June 15, 2013

TO WHOMSOEVER IT MAY CONCERN

This is certify that **Dr. Soniya Sharma,** student of IIHMR, Jaipur has successfully completed her two months Summer Internship from Santokba Durlabhji Memorial Hospital Cum Medical Research Institute, Jaipur. She did her project on **"Patient Complaints Analysis, Gap Analysis of Staffing (Nursing Dept.) as per NABH guidelines, on Book content(Medical Facts & Myths)** under the guidance of Dr. K.K. Sharma (Dy. Medical Superintendent) from April 8,2013 to June 15, 2013. During her stay here with us her work and conduct was excellent.

I wish her success in future.

H.R. MANAGER

H. R. Manager
Santokba Durlabhji Memorial Hospital
Bhawani Singh Marg
Jaipur

Phones : 0141-2566251-8
Fax : 0141-5110209
E-mail : sdmhos@bsnl.in

BHAWANI SINGH MARG, JAIPUR-302015

Acknowledgement

The study has been a novel learning experience as being a first exposure to hospital industry. This study helped in understanding and learning the hospital set up, its various departments, their functioning, and their interrelation. However, none of this would ever have been possible without the priceless support of several people. I wish to take this opportunity to express my deepest gratitude to all of them who have made this endeavour a success.

We would like to special thanks to Dr. Gautam Raj Singhvi (Medical Superintendent), Col. Badal Verma (Chief Administrator), Brig. Krishan Kumar Sharma (Deputy Medical Superintendent), Mr. Alok Sharma (Additional Medical Superintendent), Dr. Heena Kausar (Assistant Medical Superintendent).

We would like to extend my thanks to the management, medical and paramedical staff of Santokba Durlabhji Memorial Hospital specially, Dr. Shweta Nagpal (IPD Manager), Ms. Namrata Chanchlani (Public Relation Officer) for giving us all the information and support required to complete our summer training. Being beehive of activities, it was great experience as hospital management trainees at SDMH.

Our deepest gratitude is to Dr. S.D Gupta, the Director of IIHMR, Jaipur, Dr. Ashok Kaushik, Dean Academics&Student affairs and our mentors Arindam Das, Sandeep Narula, Maj. Vinod Kumar who have always been a source of encouragement and guidance which enable us to do a good job in SDMH, Jaipur, which is considered to be oldest and renowned hospital.

We would like to thank to all others who left their mark in the project and helped us in spite of their busy schedule and hectic work hours.

Last but not least, we acknowledge the moral support of our parents, family members and friends during our summer training.

Table of Contents

List of Figures & Tables

ABBREVIATIONS

2-D ECHO	2–Dimensional Echocardiography
BERA	Brainstem Evoked Response Audiometry
CT	Computed Tomography
ECG	Electrocardiography
ECHS	Ex- Service Contributory health scheme
EEG	Electroencephalography
EMG	Electromyography
ERCP	Endoscopic Retrograde Cholangio Pancreatography
GB	Giga Byte
ICU	Intensive Care Unit
IPD	In Patient Department
MRI	Magnetic Resonance Imaging
NCV	Nerve Conduction Velocity
OPD	Outpatient Department
PRO	Public Relation Officer
RDMC	Rasmikant Durlabhji Medical Centre
SDMH	Santokba Durlabhji Memorial Hospital
TMT	Tread Mill Test
TPA	Third Party Alliances

1. HOSPITAL PROFILE

1.1 History

Santokba Durlabhji Memorial Hospital is a trust managed, autonomous, fee for service, not for profit, multidisciplinary, private hospital; which conceptualized by vulnerable family patriarch, the late Padamshri Khailshanker Durlabhji. He had passion and compassion to deliver affordable health-care to the people of Rajasthan which would be second to none in the Country.

The hospital was established in 1971 and was inaugurated by late Smt. Indra Gandhi. It is located in the heart of pink city at Bhawani Singh road, Jaipur. It is self contained campus with staff residences, a bank, a post office, medical stores, diary booth, in patient attendant complex (Dharamshala) and other living facilities.

1.2 Location and Area

The hospital is spread over 90 acres of land on a prime location of Jaipur. This hospital is unique of its kind and it is also certified by ISO 900: 2000 with bed capacity of 450.

1.3 Catchment Area

The catchment area is whole Jaipur city along with other parts of Rajasthan and other states like Haryana, UP and overseas nations.

1.4 Targeted Population

The main targeted population is middle and upper middle class. It provides free services to terminally ill patients at Avedna Ashram. The camps are been organised throughout year in various districts of Rajasthan.

1.5 Mission

- To offers a broad spectrum of cost effective and humanistic clinical services of a quality that meets the highest international standards to all patients irrespective of their caste, creed or class.
- To serve as a continuing medical education centre (CME) for doctors, teaching centre for D.N.B candidates and for those categories of paramedical staff (such as nurse, technician and radiographer) that are invariably in short supply.

- To provide a base for innovative research in our constant endeavour to improve health care**.**

1.6 Vision

- To surpass current professional quality standards.
- To come up to the highest expectation of those we serve.
- To ensure a congenial and invigorating work environment that spurs all employees to reach their full potential.

1.7 Milestones

1958 Santokba Durlabhji trust created

1963 Santokba Durlabhji Diagnostic Clinic established

1969 Nursing home started in a rental building with obstetrics and gynaecology, general surgery and general medicine.

1971 SDMH Inaugurated

1973
- Eye department founded
- Paediatric department founded
- Blood transfusion services started
- E.N.T department set up

1974 Psychiatry department founded

1975 ICU & CCU commenced functioning

1976
- Dental department established
- Nursing school founded

1981 Cardiothoracic unit for open heart surgery set up

1985 Rehabilitation aids and limb fitting centre founded (RALFC)

1987 Gastroenterology department established

1988 Skin & S.T.D department setup

1989 Cath. lab installed

1991 Cardiac rehabilitation centre setup

1993
- Coronary angioplasty and coronary bypass surgery started
- Founder's corner built

1995 Nephrology & Dialysis unit started

1996 Day care centre, Avedena Ashram started

2000 ISO 900:2000 Certification obtained

2002
- Start of beating heart surgery
- G.I surgery department commissioned

2004 Paediatric ICU setup

2005
- Medical CCU started
- Laminar flow theatre started

2006 Hemlata Durlabhji conference hall commissioned

2008 NABL obtained

1.8 COMMITTEES IN HOSPITAL

1. Ethical Committee
2. Grievance Handling Committee
3. Medical Committees
4. Colormaster Scheme Committee
5. Infection Control Committee

2. OUT PATIENT DEPARTMENT

Outpatient department is defined as a part of the hospital with allotted physical facilities and medical and other staff in sufficient number with regularly scheduled hours, to provide care for patients who are not registered as in patient. The OPD facilities provide the main linkage of the hospital with the community.

2.1 Main purpose of OPD

Ambulatory medical care is provided to patient who are not confined to bed can be provided at a general practitioners clinic, specialized clinic, a health centre or a hospital, which is part of a hospital such care, is called outpatient care. This care is provided through the OPD'S for fabricating of good health to patients.

2.2 Types of services provide

- Preventive
- Curative
- Rehabilitative
- Family Welfare Services
- Counselling
- Health Education

2.3 OPD Timings

- OPD runs from Monday to Saturday (9:00 AM to 4:30PM)
- On Sunday (9:00AM to 12:00PM)

OPD charges for new and follow up patient are valid for five days

After Registration the patients are guided / sent to the particular clinic depending upon the nature of ailment judged by the patient or advised at the enquiry counter.

2.4 Location and Accessibility

OPD are closed to main entrance and located in first, second, third and fourth floor of RDMC building which is easily accessible to staff and patients, through lift, stairs and ramps.

2.5 Physical Facilities in OPD

2.5.1 Enquiry Counter- The Entrance lobby has a general enquiry counter. This counter will assist patient in all respect for their registration and other needs in addition to general enquiry and assistance.

2.5.2 Registration and Billing Counter- Preliminary registration is done in the waiting hall on the ground floor of the OPD. The registration counter opens from 8.30AM to 4.30PM. There are separate registration counters for old cases, new cases, senior citizens and physically challenged people.

2.5.3 Waiting Area and Sub Waiting Area outside each OPD

- Adequate and comfortable common waiting areas are available to cater not only patients but also those who accompany the patient. In addition to the common waiting area, there is a separate sub-waiting area for the patients/attendants in respective OPD, where they wait for their turn.
- Appropriate signage system to guide the patient to registration counters and from the registration counter to the various doctor's chamber.
- In the waiting area TV sets with cable connection are also available to ease out boredom of waiting. This is also used for the purpose of health education of the visitors.

2.5.4 Consultation Chambers –All the doctors in OPD have their consultation room that is equipped with necessary equipments.

2.6 Common Equipments and Articles in all OPDs:

2.6.1 Consultation Room

- Diagnostic bed
- Revolving chair
- Table
- Central oxygen supplier
- Sphygmomanometer
- Stethoscope
- Torch
- Weighing machine
- X- Ray view box
- Wasting bins
- Sink
- Investigation slips
- Prescription pads

2.6.2 Waiting Space

- Sofa
- Benches/chairs

❖ Peak hours-10-12AM
❖ Peak day- Monday
❖ Average patients per day: 400-500
❖ Records are maintained in OPD software and files are maintained at OPD counter.

2.7 Policies and SOP's for OPD

1. Before consulting, the registration fee has to be deposited by patients.
2. A registration fee is valid for 5 days and the patient can visit the same consultant without paying charges again.
3. If a patient reports for follow-up after 5 days then again he will have to pay the charges.
4. Patients are served on "fist come first serve" basis.

Figure 1: Location of Services

OPD and Supportive Services Of RDMC	
Basement	• Sample Collection Room • Report dispatch counter • Radiology Department (X-Ray, Mammography and Sonography) • Cash Counter • CT Scan and MRI (OKAY Diagnostics)
Ground Floor	• Enquiry • OPD Reception • Transfusion Ward • PRO Office • TPA/ECHS Office • Security Control Room • 1589 Cafeteria • Pharmacy Shop
First Floor	• Cardiology • Cardio thoracic Surgery • Obstetrics& Gynaecology • Neurology • Neurosurgery • Nephrology • Endocrinology • Dermatology • Neurology Investigations(EEG,EMG) • Cardiology Investigations(ECG, 2D-ECHO,TMT)
Second Floor	• Plastic Surgery • Gastroenterology • Gastro Intestinal Surgery • Paediatrics & Neonatology • Paediatric Surgery • GI investigations (Endoscopy...) • Well Baby Clinic/Injection Room
Third Floor	• ENT • Orthopaedics • Executive Health Check ups • Dietician • Plaster room & Minor OT • Eye OT • Speech Therapy & Audiology • Bronchoscopy & Laryngoscopy
Fourth Floor	• General Medicine • General Surgery • Urology • Ophthalmology • Dentistry • Urology OT
Fifth Floor & Sixth Floor	• Trust Chairman &Secretary Chambers

2.7 OPD PROCESS FLOW

Figure 2 Process Flow for New Patient

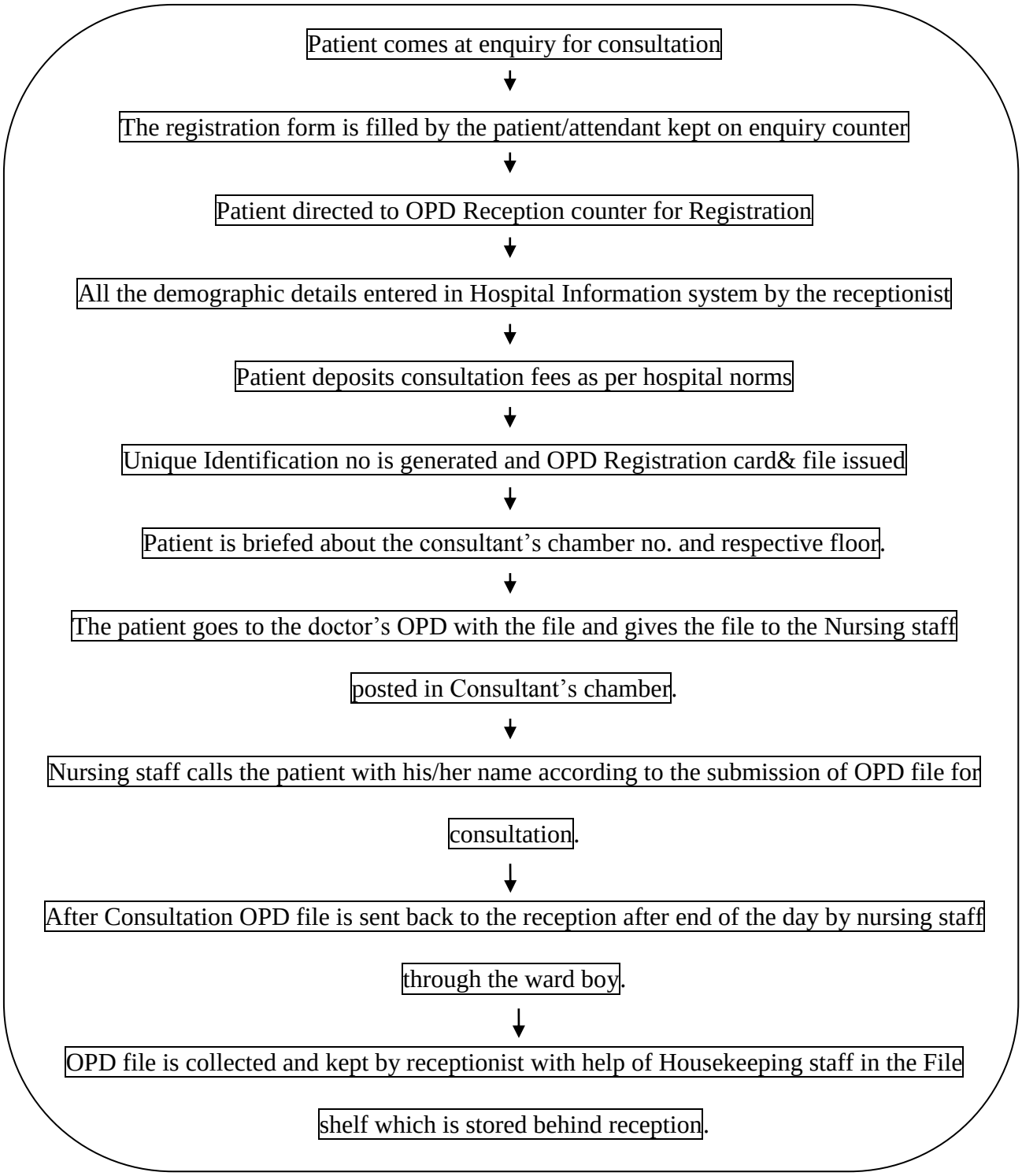


Figure 3 Process Flow for Old Patient

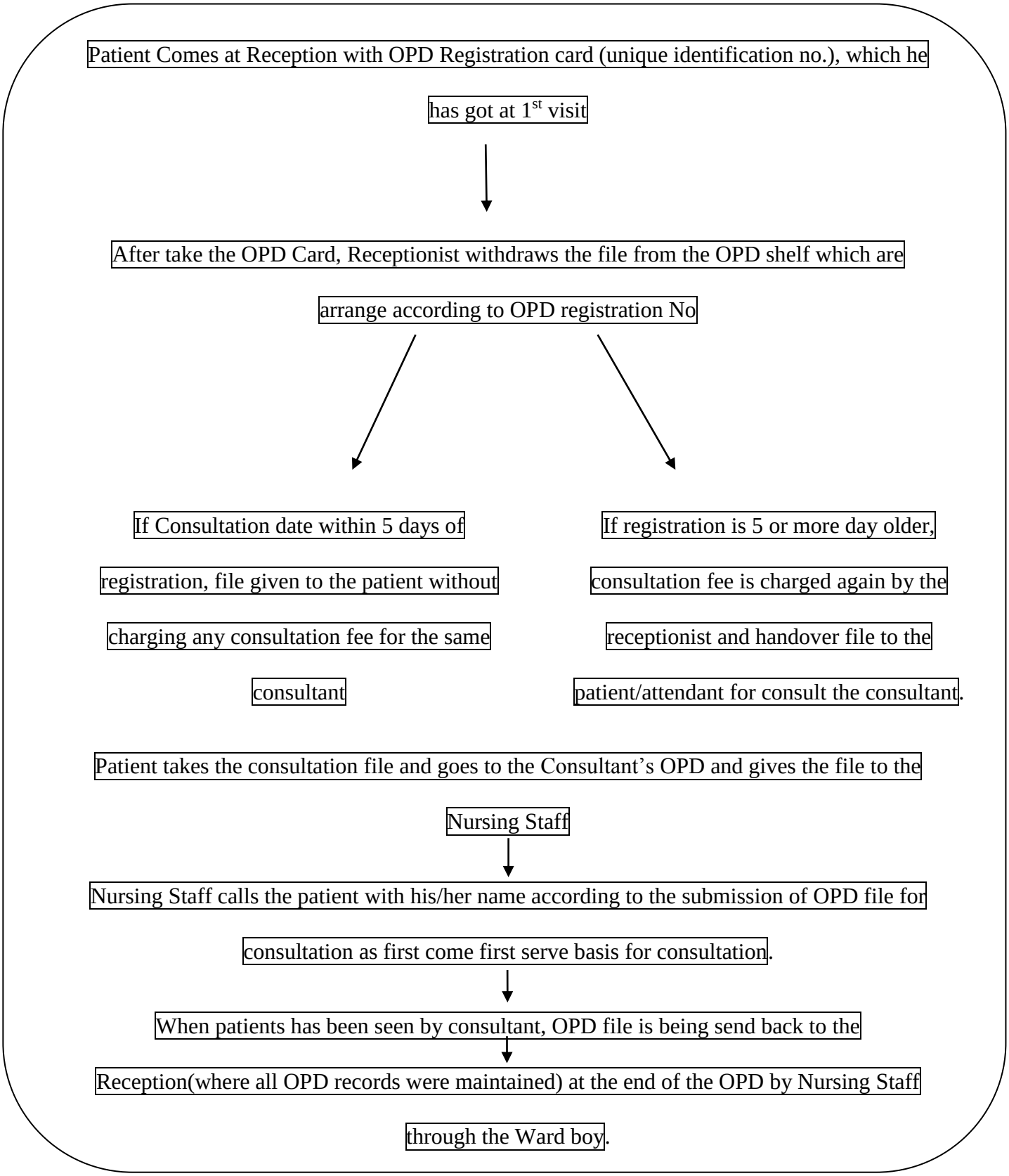
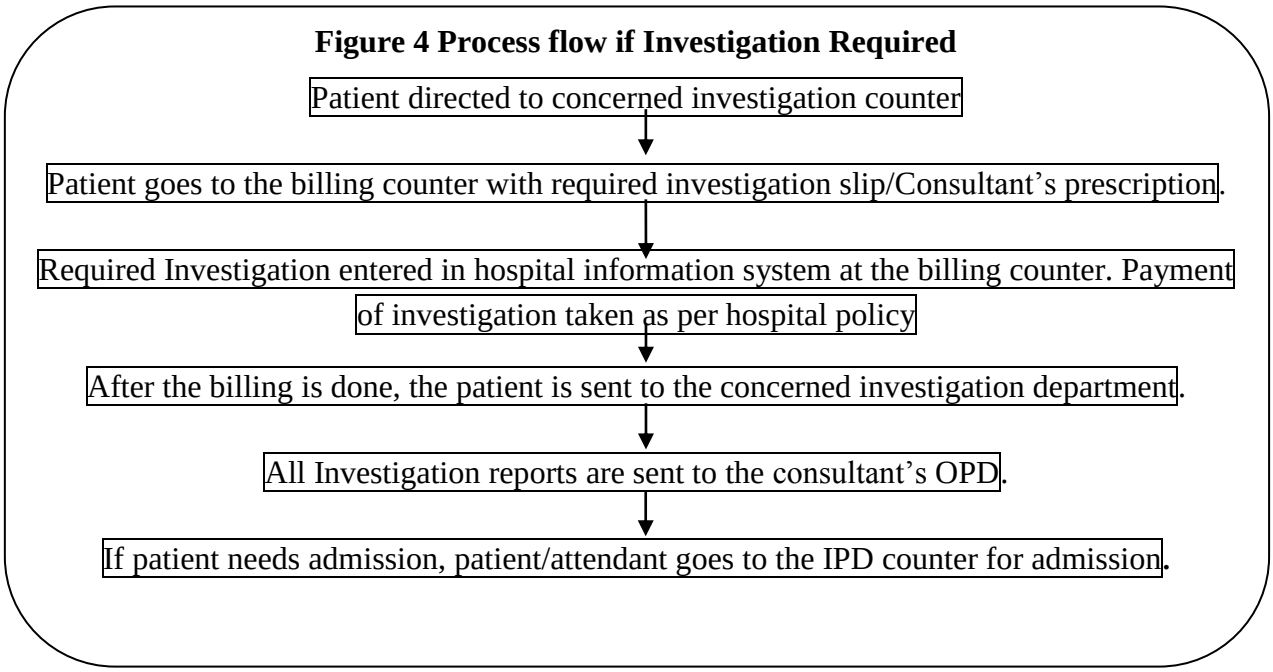


Figure 4 Process flow if Investigation Required



3. DEPARTMENTS AT BASEMENT OF OPD BUILDING

Basement of SDMH OPD building especially provides investigation facilities for OPD and outside/referred patients.

3.1 Diagnostic Services

3.1.1 Sample Collection Facilities-In OPD there is only sample collection counter for various Biochemistry, Haematology, Pathology, Microbiology & Serology tests. Samples are collected in sample collection room then send to the IPD pathology laboratory .all tests are performed IPD lab and reports send back to the OPD report dispatch counter and handover to the patients.

- Timings 8.30 am to 5.00 pm
- Average patients come per day-45

3.1.2 OPD Report Dispatch Counter-All the reports send back to this counter from IPD lab and patient collects report from this counter before 5 pm on the same day or next day. This counter is manned is by one person.

3.1.3 Cash Counter: -All the investigation charges are collected here from the patients regarding investigations. This counter is manned by two persons. All the patient details are entered in the MIS and generated two billing slips. One for patient and one for that particular investigation counter for which doctor has prescribed.

3.2 Radiology Department:-

3.2.1 Main Purpose

The practice of modern medicine cannot be undertaken without certain ingestion facilities. Radiology is one such important department of the hospital, which contributes directly to patient care.

3.2.2 X-Ray Services

Radiology is an integral part of hospital. X-RAY is one of the diagnostic tools and plays an important role in the diagnosis of diseases and impairment. SDMH had separate X-ray facilities for OPD and IPD patient's .In the basement of OPD building x ray facilities are only for OPD & outside patients.

3.2.2.1 Physical Facilities

- It has a computer with printer by which computerized billing is done.
- Reception counter- Here patient's details entered in MIS.
- There are two rooms for Sky gram- X-Ray Room-1& X-Ray Room-2
- Dark room- Each X ray room is attached with dark room.
- Control room- All X ray rooms have control room.
- Changing room- X-ray rooms have changing room for changing of clothes.
- Radiologist room-Radiologist checks it after taking an X-ray
- Folder room- When films are made by automatic machine it comes to folder room. One person puts the films in folder.
- Store room –All the stock is kept in this room stock is monthly intended.

3.2.2.2. Equipments

- 300ma Wipro X-Ray Machine
- Automatic X-Ray Machine
- Bukey Table
- Television Monitor
- Image Intensifier
- Lead Screening Table
- Control Panel of the X-Ray Machine
- Automatic Film Processing Machine
- Film Hanger

- 2 X-Ray View Box
- One Computer With Printer
- Table and Chairs

3.2.2.3. Policy & Procedure of X-ray Department

1. Charges of X-ray paid on investigation cash counter.
2. Technician instructs to patients about does not change the position so good x-ray can take and wastage of films can reduce.
3. Priority to emergency cases.
4. Technician wears a lead apron while taking X-ray.
5. The technicians were using radiation protection badges.
6. Using best films for reducing error.
7. If any breakdown and dys-functioning of machines informed to maintenance department of company for repair.

3.2.3 CT Scan Centre

3.2.3.1 Main Purpose:

CT scan (Co-axial tomography) used for diagnosis of many serious disorder of brain, abdomen etc. It is three-dimensional reconstruction imagine of the exposed region and gives a complete cross sectional picture of the part exposed. In SDMH CT scan is outsourced. (OKAY CT Centre)

3.2.3.2 Timing

24*7 Services

Note: After 8 pm and on holidays, staffs is on call

3.2.3.3 Types of Patients

- OPD patients of SDM Hospital
- IPD patients of SDM Hospital
- Outside patients (Referred from other hospitals, nursing homes and private practitioners)

3.2.3.4 Location and Accessibility

CT scan unit is located at the basement of OPD (RDMC) building which is easily accessible to patient through lifts, stairs and ramp.

3.2.3.5 Physical Facilities and Equipments:

- CT Scan Room
- CT Scan Machine with Accessories
- Stabilizer
- UPS
- Gantry
- Console Room
- Monitor with Keyboard
- Laser Camera
- Telephone
- Pressure Injector for I.V.
- Reception
- Computer
- Printer
- Dark Room
- Automatic Film Processing Machine

3.2.3.6 Staffing:

- 2 Radiologists
- 2 Radiographer
- 2 Technician
- 1 Typist/ Receptionist

Average Patient seen per day-8

Precautions taken in CT scan unit

Mirror with lead in console room

3.2.3.7 Patient Flow

Patient → Consultant → Fills requisition slips → Reception → CT Scan → Reports given to the patient

3.2.4 MRI Centre

3.2.4.1 Main purpose- Magnetic resonance imaging (MRI) is a test that can provide a detailed picture of structures and organs inside the body it uses a powerful magnetic field and radio wave energy to create the picture. MRI often provide detailed than other test. In SDMH MRI IS out sourced (OKAY MRI centre).The capacity of MRI machine is 6 Tesla.

3.2.4.2 Timing- 24*7 Services (after 8 pm and on holidays staff is on call)

3.2.4.3 Physical Facilities

MRI Room- For doing MRI TEST by MRI machine

Control Room- For controlling of MRI MACHINE, this room is separated from MRI room by special glass.

Waiting Space- Separate for MRI centre

3.2.4.4 Equipments:

- MRI Machine
- Control Panel of MRI Machine

3.2.4.5 Staffing

- 2 Technician
- 1 Typist

❖ Average patient per day – 3

3.2.5 Mammography

Mammography is used to detect any disease or impairment related to breasts.

3.2.5.1 Timing – 8AM to 5 PM

3.2.5.2 Physical Facilities

- 1-Mamography Room
- 1-Changing Room
- Specific Equipments
- 1-Mammography Machine
- Patient Flow

Average patients per day - 3

3.2.6 Ultra Sonography

Sonography is one of the diagnostic procedures carried out at SDMH. Sonography uses high frequency sound wave to produce images of internal body structure. It is one of the non invasive techniques, which is widely used in pregnancy to diagnosing the presentation of foetus, and in the diagnosis of pathological states such as ovarian tumour etc.

3.2.6.1 Types of Patient –OPD and Outside Patients

3.2.6.2 Physical Facilities-

- Investigation counter- after showing prescribed Sonography slip charges are paid here. Computerized billing is done here.
- Reception- after billing patient comes to the reception. Here patient details write down in the daily record register by the receptionist. Afterwards patient has to wait for his/her turn.
- 2-sonography room- There are two diagnostic rooms one for females(female radiologist) and one for males (male radiologist)
- Waiting space- outside Sonography room
- Equipments and articles
- 2-ultrasound machine
- Tables and chairs
- Computer for generating report

3.2.6.3 Staffing Pattern

- Medical Staff :-Radiologist → Part time Radiologist → Nursing aid
- Non Medical Staff:- Typist/Receptionist, Ward Boy, Sweeper

3.2.6.4 Records Maintain

- Ultra Sonography Register
- Monthly intend book for procuring films
- Stock register

3.2.6.5 Policies for Ultrasound Department

- Doctors prescribed slip is needed for test
- Using best film so that can reduce the wastage of film
- Timely maintenance of machines
- Sex determination test is prohibited
- Average patients-40/ day

4. DEPARTMENTS AT GROUND FLOOR

4.1 Enquiry- After entering in the OPD building first of all patient come to enquiry counter and fills registration form. The front desk answers all the queries of the patients and attendants regarding hospital.

4.2 Registration Counter- With the registration form patient come to the registration counter and pays registration fee. This counter is manned by 9 persons. All the patient details are saved in MIS and one OPD file is generated with unique OPD number.

4.3 Public Relation Officer –Public relation has become an integral and important part of management function that helps the organization in reaching out to consumers. Public relation officer handles organizational functions such as media, community, consumer and governmental relations or employee and investor relations. They help an organization and its public adapt mutually to each other.

4.3.1. Location of PRO Room - PRO room situated on ground floor nearby entrance of OPD building.

4.3.2. Responsibilities of PRO - Coordinates IPD & OPD patient's registration and further treatment.

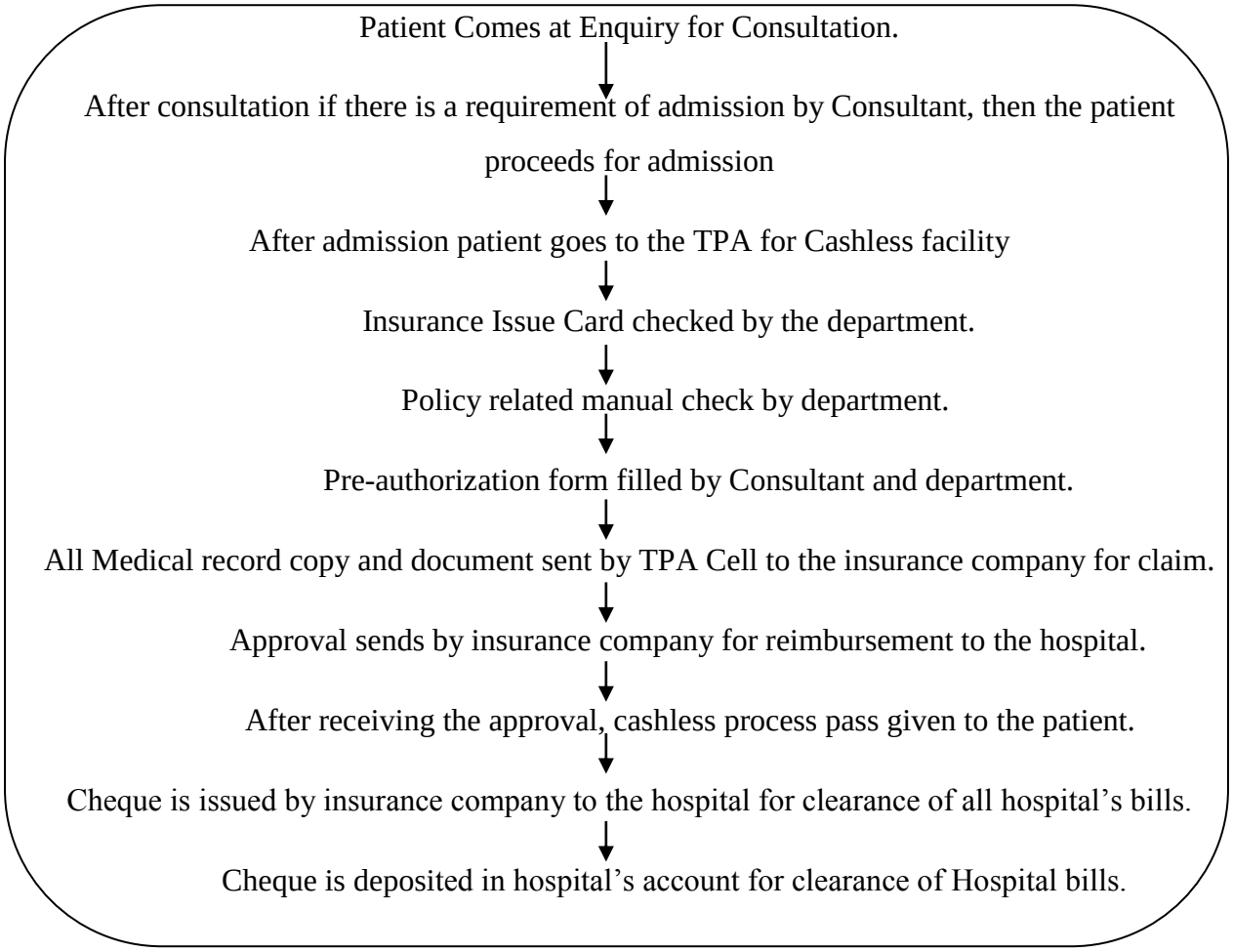
- Arranging diagnostic procedures and/or coordinating requests for consultation among other medical specialties.
- To attend to patient's/attendant's complaints and resolve them
- Obtain information and data of patient's from medical records & hospital staff.
- Contact with patients and families. Interaction with consultants
- Proficiency in medical terminology.
- Help the patients whenever they need guidelines regarding matters related to whom to contact, facilities they can avail from the hospital, fees etc and make harmonious relations with the community.
- Take the charge of going for a round of the entire hospital along with the guest, delegates, celebrities and trustee, if they come for a visit.
- Maintain patient's appointment registers.
- Inform the patients and the staff about the vision and the mission of the hospital to which it is dedicated to.
- Encourage donation for Eye Bank and Blood Bank.
- Guide the patients of TPA/ECHS and the corporate bodies to the concerned departments
- Undertake other assignments given by higher authority.

4.4 TPA/ECHS Office

Location of TPA/ECHS situated at ground floor next to PRO office.

4.4.1. Process Flow

Figure 5 Process Flow for TPA Claim



4.4.2. Responsibilities of TPA

- Keeps and maintains all the records of medical insurance policies of an insurer.
- Provide information to patient for insurance claim.
- Recover of the payment by insurance company to the hospital.
- Sends all the documents necessary for claims, along with the medical bills to the insurance company.
- Make payment of hospital's bills to the patient through the Insurance Company.

4.5 Security- Security service is one of important services in hospital and it is responsible for patient and hospital safety. There are 33 CCTV Cameras fitted in OPD building.

4.5.1 Timings

- 24 hour's security services. Guards are deployed in three shifts (each shift of 8 hours)
- Security services are separate for OPD, IPD &outside area.

4.5.2 Location- On ground floor, nearby entrance

4.5.3 Staffing Pattern-

- Security Advisor-1
- Security Officer-1
- Supervisor-2
- Security Guards-11

4.6 Pharmacy

Main purpose-SDMH has one drug store in the OPD & IPD building and one external in the campus for dispensing of required & prescribed medicine to patient. This is on rent.

4.6.1 Billing- common billing is done on which batch no and expiry date of medicine is written.

4.6.2 Types of Patient

- OPD
- IPD
- Outside patient

4.6.3 Physical Facilities:

- Drug Receiving Counter
- Store Room
- Refrigerator

Average patient come per day-150

4.7 Transfusion Ward

Transfusion ward provides care for the patients who need transfusion of blood especially for Thalasemia patients

- Bed Strength-11
- Staff Nurse-2
- Sweeper
- Ward boy

Timings- 8.00 am to 5.00 pm

Average patient per day- 4

5. DEPARTMENTS AT FIRST FLOOR OF OPD

5.1 Neurology & Neurosurgery

Neurology & Neurosurgery OPD in SDMH is well equipped for the patient those are suffering from the diseases of central nervous system.

5.1.1 Physical Facilities in Neurology

- Consultation Rooms-6

5.1.2 Staff

- Consultants-6
- Staff Nurse-1
- Sweeper

Average no of patients seen per day -55

5.2 Cardiology

Cardiology OPD is catered for best heart care. It counsels and gives treatment to patients those are suffering from any cardiac ailments. So patients can able to lead a normal life.

5.2.1 Specific equipments in Cardiology

- Tran go machine (Angiography)

5.2.2 Physical facilities of Cardiology

- Consultation Room-4
- Waiting space

5.2.3 Staff

- Consultants-5
- Nurse
- Sweeper

5.3 Cardiothoracic Surgery

Cardiothoracic surgery is the field of medicine involved in surgical treatment of diseases affecting organs inside the thorax (the chest)—generally treatment of conditions of the heart (heart disease) and lungs (lung disease).

Staff

- Consultant-2
- Nursing aid
- Sweeper

Average no of patients seen per day -18

5.4 Dermatology/Skin

- This OPD provides services to patient those are suffering from skin diseases.
- Specific equipments &other articles in dermatology OPD.

5.4.1 Equipments

- Tunnel fork
- Acne scrubber
- Punch(for pinch biopsy)
- Condor exterior probe
- Cardiac machine

5.4.2 Staff

- Consultant-1
- Nurse-1
- Sweeper

5.5 Endocrinology

- Endocrinology OPD in SDMH caters for the patient those are having problems and diseases related to endocrine glands and irregular secretion of hormones from these glands.
- Physical facilities of endocrinology OPD
    - Consultation Room-2

5.5.1 Staff

- Consultant-2
- Nurse-1

Average patient seen per day 40

5.6 Gynecology

Gynaecology OPD provides treatment and preventive care to the women's those are suffering from any disease, disorder, impairment and problem related to their reproductive organ &reproductive system & also give the treatment & counselling to prevent women.

5.6.1 Staff

- Consultant-5
- Nurse-1
- Sweeper

Average patient seen per day -56

5.7 Nephrology

Nephrology OPD provides counselling or treatment to the patient those are suffering of any diseases related to kidneys.

5.7.1 Staff

- Consultant-1
- Nurse
- Sweeper

5.8 Neurology Investigation

5.8.1 EMG (Electromyography) is a test that evaluates the electrical activity in nerves and muscles. It is used for checking nerve conduction that evaluates the speed

- Amount of electrical activity along a nerve and activeness of muscles.

5.8.1.1 Timings- 8.30 am to 5.00 pm

5.8.1.2 Types of Patient

- OPD
- IPD
- Outside patient

5.8.1.3 Location– On first floor, near to the neurology OPD room

5.8.1.4 Physical Facilities

- EMG room
- Waiting space
- Equipments
  - ✓ EMG machine
  - ✓ Monitor
  - ✓ 4-channel junction box
  - ✓ EMG needle
  - ✓ 1-Television
  - ✓ Ultrasound jelly
  - ✓ 1-Bed
  - ✓ Table
  - ✓ Chairs

5.8.1.5 Staff

- Technician-1
- Sweeper
- Patient flow

5.8.1.6 Type of Tests

- NCV
- BERA

Average patient per day-6

5.8.2 Electroencephalography is a test that measures and records the electric activity of brain by using sensors electrodes attached to head and connected by wires to a computer. The computer records brain's electrical activity on the screen or on paper as wavy lines.

5.8.2.1 Timing: 8.30 am to 4.00 pm

5.8.2.2 Types of Patient

- OPD
- IPD
- Outside

5.8.2.3 Physical Facilities

- EMG room
- Waiting space

5.8.2.4 Equipments:

- EEG machine
- Video EEG machine with neon codon it is computerized.
- Electrode junction box
- Infusion pump
- Bed

5.8.2.5 Staff

- Technician-1
- Sweeper

Average patient per day-2

5.9 Cardiology Investigation

5.9.1 ECG (Electrocardiogram) is one of the diagnostic procedures, which is used to study heart disorder. In an ECG test, the electrical impulses made while the heart is beating are recorded and usually shown on a piece of paper.

5.9.1.1 Timing- 9.00am to 5.00 pm

5.9.1.2 Location - First floor, near to gynaecology OPD.

5.9.1.3 Types of Patient

- OPD
- IPD
- Outside

5.9.1.4 Physical Facilities

- **Reception -** Separate reception for ECG. Here entries are done in ECG register.
- **ECG room**
- **Waiting space-** Common for ECG, TMT, 2D ECHO

5.9.1.5 Equipments

- ECG room
- ECG machine
- ECG leads
- Lead fixing clips
- Cardio jelly
- ECG reception counter
- Counter table
- ECG files for OPD, IPD and outside patient.

5.9.1.6 Staff

- Cardiologist
- Technician
- Nursing aid

Average patient per day-35

5.9.2 TMT (Tread Mill Test) is also called exercise stress test, computerized stress test. This is the test performed on heart patient to determine the severity of the heart disease. Patients have to physically exert for this test which uses a computerized machine. The level of the exercise is gradually increased. The continuous ECG monitoring during the exercise would reflect any blood and oxygen deficit in the muscles of the heart during exercise.

5.9.2.1 Timing - 9.00 am to 5.00 pm

5.9.2.2 Location - On the first floor, near to gynaecology OPD and next to ECG

5.9.2.3 Type of Patient

- OPD
- IPD
- Outside

5.9.2.4 Physical Facilities

- TMT room for TMT test

- Waiting space outside the room

5.9.2.5 Equipments

- Tread mill machine
- 1-marker case sis trine
- Stabilizer
- Defibrillator
- Diagnostic bed
- Weighing machine
- BP apparatus

5.9.2.6 Staffing

- Cardiologist
- Technician

Average patient per day-20

5.9.3 2D ECHO (2 Dimensional Echocardiography) main purpose is to test in which ultrasound is used to picture out the heart. It is capable of displaying a cross sectional "slice" of the beating heart, including the chambers, valves and the major blood vessels that exit from the left and right part of the heart.

5.9.3.1 Timing- 10.00 am to 4.30 pm

5.9.3.2 Location – on first floor, next to ECG room

5.9.3.3 Type of Patient

- OPD
- IPD
- Outside

5.9.3.4 Physical Facilities

- 2- D ECHO room
- Waiting space outside the room
- Equipments
- 2- D ECHO machine
- Monitor
- Computer with printer to generate report

5.9.3.5 Staff

- Technician
- Nursing aid
- Typist

Average patient per day-25

6. DEPARTMENTS AT SECOND FLOOR OF OPD

6.1 Plastic Surgery

SDMH also provides treatment to the patient for cosmetic complaints in the form of plastic surgery.

6.1.1 Staff

- Consultant
- Nurse-1
- Nursing aid
- Sweeper

Average patient per day-20

6.2 Pediatrics and Neonatology (Pediatric Surgery)

SDMH have Paediatric OPD .If children suffer from any diseases, discomfort & disorder come to this OPD and get treatment.

6.2.1 Specific Equipment in Pediatric

- Digital weighing machine
- Gauge box

6.2.2 Staffing of Pediatric

- Consultants-7
- Nurses-3
- Sweeper

Average patient seen per day-40

6.3 Gastroenterology and GI Surgery

Gastroenterology provides treatment to patient having gastric troubles and diseases with the use of drugs and by surgery.

6.3.1 Specific Equipment

- Suction machine

6.3.2 Staff

- Consultant- 6
- Nursing aid- 2
- Sweeper

6.4 Gastroenterology Investigation

6.4.1 Endoscopy Test

An endoscopy is a medical device consisting of a camera mounted on a flexible tube. Small instrument can be used to take samples of suspicious tissue through the endoscope or viewing of interior organ of body for diagnosing and treatment of body.

6.4.1.1 Timing- 9.00 am to 5.00 pm

6.4.1.2 Location- on second floor near to the gastroenterology OPD

6.4.1.3 Types of Patients

- OPD patients
- IPD patients
- Outside patients

6.4.1.4 Types of Tests

- Gastroscopy
- Colonoscopy
- Scleroscopy
- Oesophageal dilation
- Oesophageal prosthesis
- ERCP
- Rigid sigmoidoscopy

6.4.1.5 Physical Facilities

- Pre and post Endoscopy room- for relaxation of patient , before and after endoscopy
- Reception
- Changing Room
- Endoscopy Room
- ERCP Room

6.4.1.6 Equipments

- Accessories of Gastro Scope
- Biopsy Forceps
- Channel clean brush
- Sclero injector for oesophageal varices
- Dilator for treatment of stricture oesophagus
- Ultraflex for treatment of carcinoma oesophagus
- Accessories of colonoscope
- Biopsy forceps
- Polypectomy forceps for treatment of polyps
- Biliary stunt in the treatment of obstructive jaundice

6.4.1.7 Staff

- Consultant-1
- Technician-1
- Staff Nurse-1
- Nursing Aid-1
- Receptionist-1
- Sweeper

Average patient per day -17

6.5 Well Baby Clinic / Injection Room

There is separate OPD room in the SDMH OPD for regular checkups of new born babies and children. Immunization is also done here.

6.5.1 Staff

- Consultant-1
- Staff Nurse-1
- Nursing Aid-1

6.5.2 Physical Facilities

- Bed
- Immunization Room
- Refrigerator for keeping vaccines and medicines

Average no of patient -14

7. DEPARTMENTS AT THIRD FLOOR OF OPD

7.1 Dietary OPD

SDMH have Dietary OPD that is located separately to main hospital building. This OPD provides dietary services to the patient and gives advice to them what should be included in food which they should take in particular diseases and what precautions should be taken in diet. So patient can live a healthy life with healthy diet.

7.1.1 Staff

- Consultant Dietician-1
- Nurse-1

Average patient seen per day -2

7.2 Orthopedics

SDMH have well equipped orthopaedic OPD. It provides services to the patient those are having problem, diseases, disorders and injuries related to bones and joints. After examining of patient if doctor finds for any minor procedures it will be done in minor OT/Procedure room and major surgeries like joint replacement, trauma and arthroscopy surgeries are done in operation theatre.

7.2.1 Physical facilities at Orthopedics

- Consultation Room-9
- Dressing Room-1
- Minor OT /Procedure room
- Specific equipment & articles in Orthopaedic OPD
- Minor OT
- OT Light
- Suction Machine
- Central Oxygen Supplier

- Instrument tray with forceps and scissors
- Trolley with surgical tapes bandages, gauges ,essential medicine
- Gloves
- Plaster Room
- Bed, big lamp, bandage, plaster cutting tools
- Drilling machine
- Forceps ,scissors

Staff

- Consultants-9
- Staff Nurses-2
- Nursing Aid-2

Average no of patients seen per day -50

7.3 ENT

ENT department in SDMH provide services to patient those have any ailment, discomfort & diseases related to ear, nose and throat.

7.3.1 Physical Facilities of ENT

- ENT Consultation Rooms-2
- Specific equipments & articles in ENT
- Head mirror
- Bull eye lamp
- Laryngeal mirror
- Tongue depressor
- Nasal specula
- Oral specula
- Ear specula
- Autoscope
- Suction machine
- Forceps

7.3.2 Staff

- ENT Consultants-2
- Nurse-1

Average no of patients seen per day -22

7.4 Audiology & Speech Therapy Department

Audiology and speech therapy for testing hearing, sensitive, and degree of hearing loss then give appropriate treatment. In speech therapy training is given to patient those are unable to speak properly and language disorder or any diseases.

7.4.1 Physical Facilities of Audiology & Speech Therapy

- Audiology and speech therapy room –It is a sound proof room for audiometric tests.

- Specific equipments & articles in audiology and speech therapy OPD
- Pure tone audiometric
- Impedance audiometer
- Hearing aids
- 2-speakers(for field audiometric)
- Mirror and chart, toys etc.

7.4.2 Staff

- Speech Therapist-1
- Nurse-1
- Sweeper

Average no of patients per month -3

7.5 Executive Health Checkups (EHC)

SDMH also provide preventive health care services in the form of executive health checkups .It includes different health packages for different group of people on reasonable charges like:

- Child health check-ups,
- Senior citizen health checkups,
- Well women health checkups (below 40 years & above 40 years),
- Executive health check ups
- Whole body health checkups
- Pre-employment health checkups, routine medical health checkups, diabetic health checkups, comprehensive cardiac health checkups etc.

7.5.1 Physical facilities in EHC

- Registration Counter
- Waiting Hall separate for EHC
- Consultation Room-1

Staffing of EHC OPD

- Consultant-1
- Nurse-1
- Receptionist-1

Average no of patient seen per day-3

7.6 Bronchoscopy and Laryngoscopy

8. DEPARTMENTS AT FOURTH FLOOR OF OPD

8.1 General Medicine

SDMH has general medicine OPD gives preventive and curative treatment to the patients and physician focus on the treatment of diseases with the use of allopathic medicine or pharmaceutical drugs.

8.1.1 Staff

- Consultant-6
- Nursing Aid
- Sweeper

Average patient per day -60

8.2 General Surgery

SDMH has general surgery OPD gives curative and rehabilitative treatment to the patients where physician provides treatment by surgeries.

8.2.1 Staff

- Consultant-2
- Nursing aid
- Sweeper

Average patient seen per day-37

8.3 Dental Surgery

In SDMH dental OPD gives services and treatment to the patient those are suffering of any impairment related to the teeth, jaws and gums.

8.3.1 Physical Facilities of Dental OPD

- Consultation Room-1
- Dental procedure room equipped with necessary equipment.
- Specific equipment and articles in dental OPD:
- Procedure Room
- Dental X-ray Unit
- Drill Composer
- Ultra Sonic Scaler
- Vapour Sterilizer
- X-ray Developer
- X-ray View Box
- Lighter, Kavitron
- Filling Material

8.3.2 Staff

- Consultant-1

- Nurse-1

Average no of patient -12

8.4 Urology

Urology OPD provides counselling or treatment to the patient those are suffering of any diseases related to urinary organ.

8.4.1 Physical Facilities of Urology OPD:

- Consultation Room-1
- Waiting space separate for Urology OPD
- Staffing of urology OPD
- Nurse
- Sweeper

Average no of patient seen per day -13

8.5 Eye/ Ophthalmology

Eye OPD in SDMH meant for provide services to patient those are suffering from any discomfort, disease in eyes. After reaching their patient examine thoroughly if they needed any minor procedure like tonometry , field charting etc done in minor OT / procedure room and major procedures like virectomy, phaco emulsification, and retinal detachment are done in eye OT/ major OT which is situated on third floor of OPD building.

8.5.1 Physical Facilities in Eye OPD

- Consultation Room-2
- Procedure Room/Minor OT-1

8.5.2 Special Equipments and articles in Eye OPD

- Binocular
- Caratometer
- Fucimeter
- Fundus camera
- Mirror
- Sink
- Slit lamp
- Snellens chart
- Torch

8.5.3 Staff

- Consultant-2
- Nurse-1
- Sweeper

Average no of patient seen per day-26

9. DEPARTMENTS OUTSIDE OPD

9.1 Rehabilitation and Limb Fitting Centre (RALFC)

- In the year 1985 Dr. P.K. Sethi after retirement from SMS Hospital started Rehabilitation Centre at Santokba Durlabhji Memorial Hospital.
- It provides cost effective quality services in the field of Prosthetics (Jaipur foot) and Orthotics.
- With assistance from Department of Science & Technology, Government of India it developed "low cost, low weight, thermoplastic, total contact, rehabilitation aids and artificial limbs (Jaipur foot)".
- It provides all types of upper and lower limb prosthetic and orthotic services.
- It provides artificial prosthesis for cases like:

    - All types of paralytic conditions like poliomyelitis
    - Spinal injuries
    - Cerebral palsy
    - Spinal bifida
    - Stroke
    - Nerve injuries
    - Non-union and mal-union of fractures myopathies
    - Congenital deformities.

9.1.1Special Clinics

- Sports injury rehabilitation
- Back pain and neck pain

9.1.2 Special Procedures

- Newly designed low weight artificial limbs having total contacts socket with soft socket inside.
- Floor reactions orthosis to support weak knee.
- Articulated and non articulated
- Braces for congenital dislocation of hip (Pelvic harness, Von Rowen Splint)
- D.B. Splint for club foot
- Polypropylene braces for spinal deformities.

9.1.3 Staffing

- Consultant-1
- Nursing Staff -1
- Technician-4

It runs a free Rehabilitation Camps that are been organized once a month in rural areas within 250 Km around Jaipur.

Jaipur foot, calliper, wheelchair and tricycle are provided by the hospital as per the requirement.

9.1.4 Mobile Rehabilitation and Limb fitting clinic: A customized mobile rehabilitation Bus is providing backup services to the patients.

Emphasize on campaign to create public awareness for prevention of disability.

9.2 Psychiatry

Psychiatry department of SDMH assures comprehensive psychiatry assessment and treatment for the entire range of psychiatric and psychological problems of children, adults and geriatric population.

9.2.1 Services provided

- Outdoor psychiatry services including emergencies
- Drug de-addiction

9.2.2 Staffing

- Consultant-1
- Clinical Assistant-1
- Nursing staff-2

9.2.3 Procedures

- Psychotherapy
- Psychoanalysis
- Microanalysis
- Modified ECT
- Biofeedback behaviour therapy

9.3 Physiotherapy

Physiotherapy department is concerned with rehabilitation of patients so that they can lead an independent life. Treatment is by physical means, not by drugs.

9.3.1 Type of services provided

- Rehabilitative
- Preventive
- Curative

9.3.2 Human Resources

Sr. Physiotherapist
↓
Jr. Physiotherapist
↓
Part time Physiotherapist
↓
Ward boy & receptionist

10. IN PATIENT DEPARTMENT

In Door Patient Department caters the services for patients who require continues observation and supervision of experts, acute & intensive medical care and emergencies. In SDMH there is separate IPD Building which has four floors and a basement. Floor wise distribution is as follows:

Figure 6: **Floor wise distribution of IPD**

Basement	Administrative Block/Offices
	Laboratory services
	Library
	Radiology services
Ground floor	Enquiry
	Admission Counter
	Ambulance Enquiry
	Pharmacy Shop
	Emergency
	Security desk
	Billing counter
	Computer/IT lab
	Male private Ward
	Nurses sick Room
	Staff Sick Room
	General Deluxe Ward-3
	General Deluxe Ward-5
	Medical Intensive Care Unit
	Step Down ICU-1
First Floor	Female Private Ward
	Old Operation Theatre (Cardio. + Neuro.)
	Cath. Lab
	New Operation Theatre
	Surgical Critical Care Unit
	Medical Critical Care Unit-1
	Medical Critical Care Unit-2
	General Deluxe Ward-4
	New Private Room
Second Floor	Maternity Ward
	Labour Room
	Paediatric Intensive Care Unit
	Pre-mature Care Unit(PCU)/Neonatal ICU
	Labour Delivery Rooms
	Chairman Room
	Paediatric Ward
	Surgical ICU
	Transit Ward
	Urology Ward
	Super Deluxe Rooms
	Semi Deluxe Rooms

Third Floor	Dialysis Unit
	Nephrology Ward
	Orthopaedic Ward(KMO)-1
	Orthopaedic Ward(KMO)-2
	Terrance Operation Theatre
	Neuro-Science ICU
	Central Sterilization Room(CSR)
	Neuro Science ward
	General Deluxe Ward-1
	General Deluxe Ward-2
Fourth Floor	New Deluxe Rooms
	Colour Master Ward
	Convalescent Ward-Medicine
	Convalescent Ward-Gastro.
	Convalescent Ward-Surgery
	New Medicine Ward

10.1 Infrastructure of IPD Building:-

10.1.1 Connectivity of Floors

- **Lifts**: - There are total five lifts in the hospital building which has different capacity. Three of them have capacity of 15 persons at a time, one of them have capacity of 11 peoples at a time and remaining one has capacity of six persons at a time.
- **Stairs**: - There are two staircases to go up from ground floor and one staircase go on basement.
- **Ramp**: - There is one ramp from ground floor to other floors.
- **Foot Way/Connecting Bridge**:-There is ramp connectivity from OPD building to IPD building from first floor.

10.1.2 Fire Safety Equipments

There are various types of fire safety equipments in IPD & OPD building which includes:

- Water Neel Rope: - it is used in general fire.
- Foam Cylinders: - it is used to come up with electrical fire.
- Sprinkler System
- Smoke sensors
- Fire Alarms
- Emergency fire exits

10.1.3 Gas pipe lines

There are different colour pipe lines are there for different gases for Wards, ICU's and OT's.

- Yellow pipe with white band: oxygen line
- Yellow pipe with blue band: nitrous oxide line
- Yellow pipe with black band: Vacuum line
- Blue pipe with white band: Air line

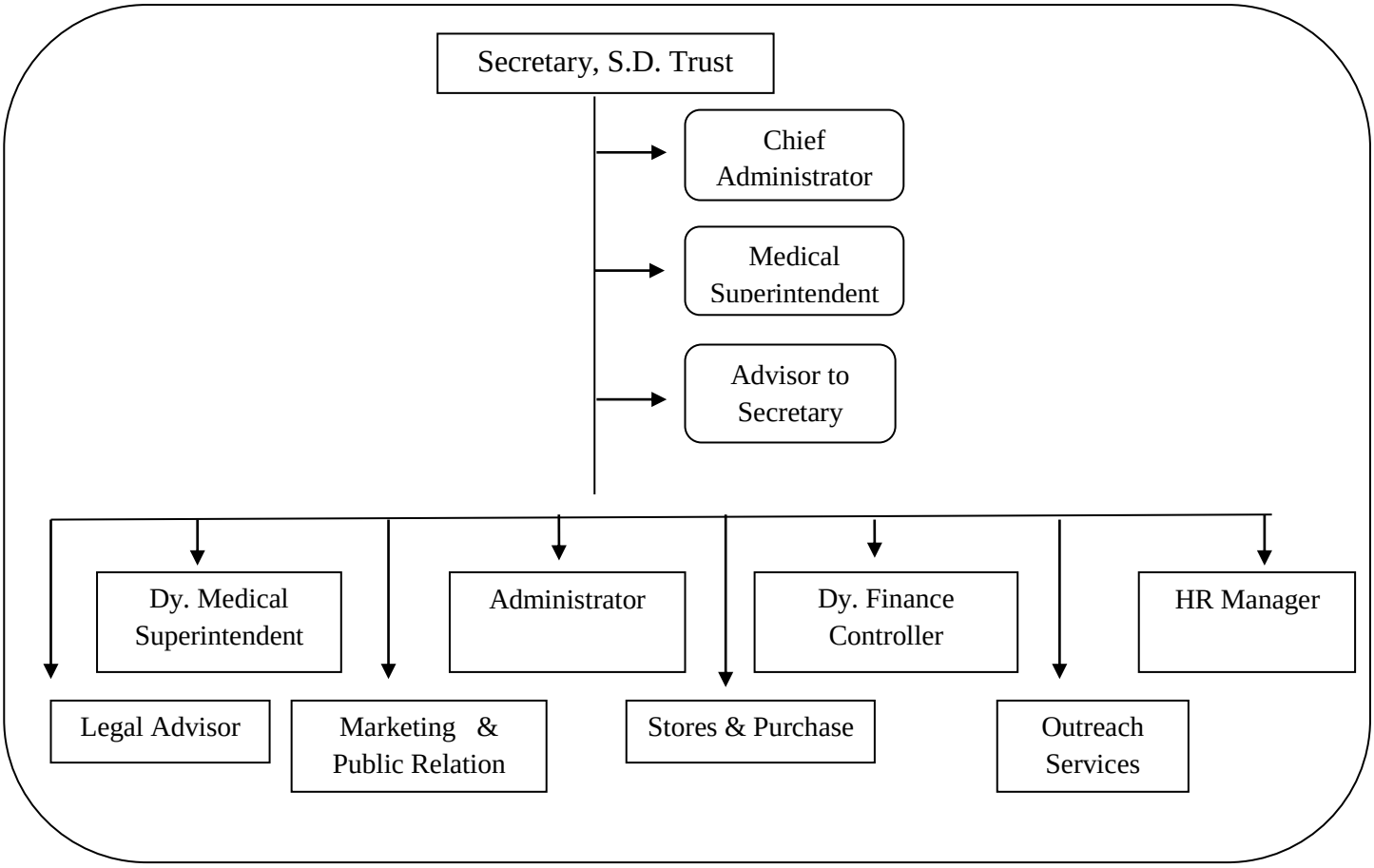
10.1.4 Waiting Area

Every ward and ICU have waiting area attached with them which has open space as well as some fixed chairs and attached washrooms.

10.1.5 Cafeterias

It is an outsourced service. Every floor has one cafeteria in waiting lounge which provides snacks, tea and coffee. Only one or two of whole building are opened 24*7 and rest of them are running from **Morning**: 6.00am to 11.00pm.

10.2 Administrative Block: The administrative block was located in the basement of IPD building**.** **Figure7 Administrative Organogram**



10.3 Library-The library was situated in the basement of the IPD building. It was fully Air conditioning. Timing of this is from 9.00Am to 7.00Pm.there is attached computer room for students and faculty that have internet facilities. There were various types of the medical books, international& national journals are there.

10.4 Radiology Services - Radiology services like Digital X-ray and Ultra-Sonography Rooms are available in the campus for IPD patients. The charges for these services are not collected cash here but it will be noted down on patient Charge Sheet which is with the

patient's file and collected at accordingly at Bank or Admission counter. There are three X-ray rooms and two Sonography rooms for IPD patients.

10.5 Laboratory Services:-The laboratory services like Pathology, Biochemistry, Histopathology and Haematology are available here for both in and out patients. For in patients, samples which are collected in wards sent to lab with housekeeping staff and Bar codes are generated by LIS (Lab Information System). For outpatients, samples which are collected in OPD also taken for further process.

Figure 8: Lab Equipment List

S.N.	Biochemistry	Haematology	Histopathology	Microbiology
1	Vitros 5,1 FS	STA-ART-4	Tissue processor	BACTEC-9050
2	Vitros-250dry chemistry	STA-Compact	Cytostate machine	Microplate ELISA Reader
3	Blood gas/electrolyte(B)bayer	SysmexXT-1800i	pH meter	Vitros ECI
4	(Bio red)D-10 (Glyco-Hb)	Vasmatic-20	Microscope	Vitros -3600
5	Laser Nephlometer	Clinitek-Advantus	Fluorescence microscope	Vitek-2 Compact
6	Nephlometric Analyser(elecctralat)		STAT Spin Cytofuge2	BACTEC-9120
7	ERBA-Chem-5 plusv2 (Semiautoanalyser)		Leica Embedding Station	
8	Genio-S		Microtome	
9	Cardiac Marker Analyser		Microwave	

Figure 9: Lists of Tests Done

S.N.	Department	No. of Tests
1	Biochemistry	81
2	Harmones/Marker	25
3	Stool Examination	7
4	Haematology	38
5	Immunology(Serology)	85
6	Microbiology	30
7	Histopathology& Cytology	16
8	Blood Bank & Transfusion	47
9	Urine Analysis	30

10.6 **Marketing Services of Hospital**

There is no as such core marketing activities in hospital as hospital having its Brand name. It is regulated by a trust which is running on no profit strategy. Catchment area of hospital is Jaipur city, Jaipur Rural and adjoining districts like Sikar, Ajmer, Dausa, Jhunjhanu, Makrana and Narnol etc.

As a part of promotional activities some are there:

- Publication of Clinical Success Stories in News paper.
- Sports awareness campaign.
- Regular CME's (Continuous Medical Education).
- Rural Health Camps
- Public Awareness programmes.
- Free Medical facilities to International Airport at Sanganer, Jaipur.
- Organizing the Youth Soccer League (YSL).
  Hospital has tie up with 40 of the corporate organization as well as various Government Agencies for regular health checkups and pre employment health checkups.

10.7 Computer/IT Department

This department is situated at ground floor of the IPD Building. There are total 10 employees in IT department of hospital distribution of all as follows: -

- System Analyst-4
- Programmer-3
- Hardware Engineer-2
- Operator -1

There are total 220 computers in hospital campus all are attached with a Client Server Architecture System which has data storage capacity of 260 GB.

There are four basic requirements for developing a programme/module for HMIS:-

1. Data Base: - Oracle as a data base is used in SDMH.
2. Operating System: - Windows 2003 operating system is used right now.
3. Hardware: - Client Server Architecture System of HP is used.
4. Language: - Visual basic language is used to develop programmes.

There is LAN connection which is Lease line of 5Mbps.

10.8 Human Resource Department

Human Resource Department is headed by HR manager who directly report to Chief Administrator. This department works from recruitment to retirement of an employee. There are total Approx 1200 employees in the hospital which includes Administrative Staff, Consultants, Residents, DNB Students, and Housekeeping & Security Staff.
There are three types of the employees in the hospital:

- Hospital Grade
- Wages
- Contractual man power

There is provision of (Policies of HR Department):

- Annual increment of approx.10-12% depending upon individual performance.
- Total 40 annual leaves along with leave encashment up to 20 leaves in special circumstances.
- Daily allowance which is refined twice a year once in April and then October.
- Exit interview by the next superior authority at the time of leaving the organisation.
- 360^0 Performance appraisal of every employee at the end of financial year.
- Stipend to the DNB student

10.9 Finance Department

Finance Department is headed by Finance Controller and Deputy Finance Controller is directly reporting to Secretary to SDMH trust.

Finance Controller
↓
Deputy Finance Controller (Internal Audit)
↓
Senior Accounts officer
↓
5- L.D.C.

Duties of finance department to generate revenues minimize the costing of procedures, internal auditing the departments and arranging the external audit at the end of financial year.

There are two types of revenues in hospital that is medical like OPD, IPD, Investigations, Procedures and OT fees another is non medical like from MOU's, Outsourced departments and Rent.

Internal auditing is done to check the manipulations. There are various types of auditing in hospital that are as follows:-

- Cost audit like Per bed costing
- Man power audit
- Department audit
- Per day revenue audit
- Observational audit

Figure10 Flow of Patient in IPD

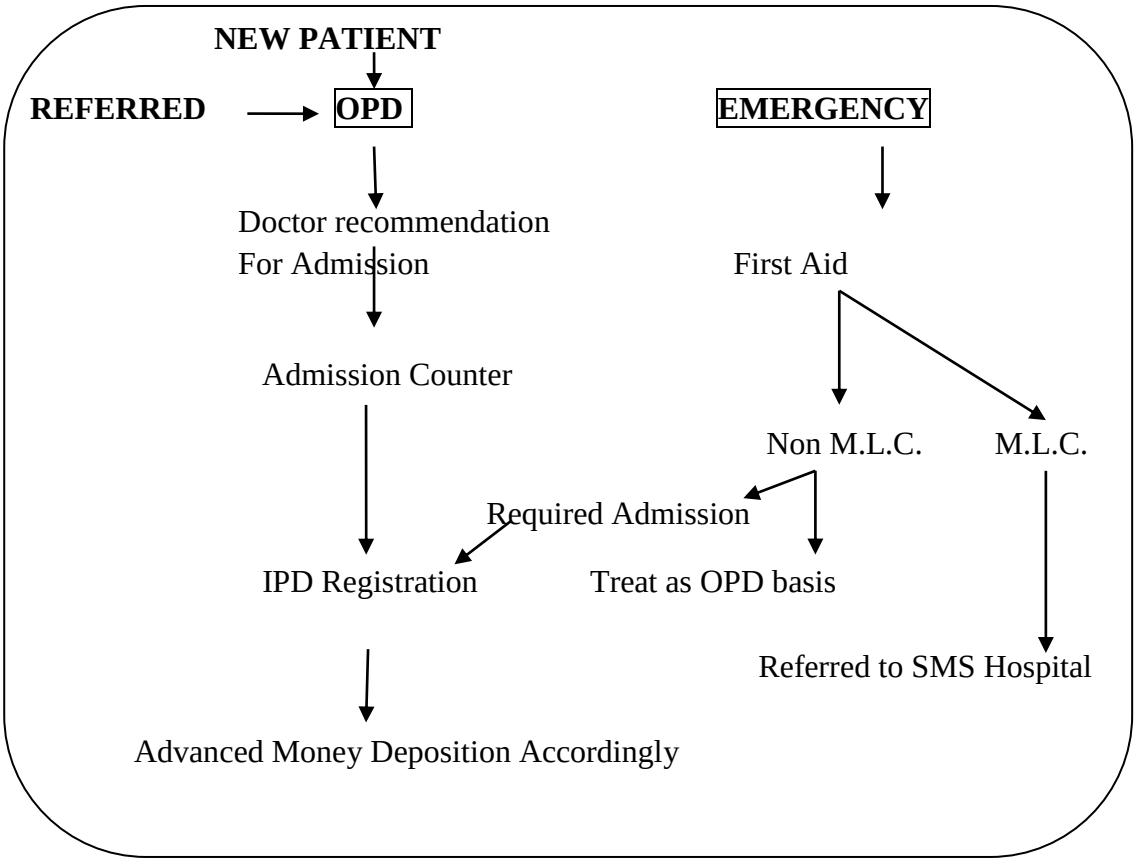


Table 1 Types of Wards and Bed Strength

Type of Ward	**Bed Strength**
General Ward	299
Private Ward	21
Deluxe	15
LDR	2
Critical Care Area	63
PICU	7
PCU	20
Trustee room	1
NSR	2
SSR	2
Total	432

Note: Avedna Ashram which caters services for terminally ill patient has 82 beds.

Equipment list of Wards

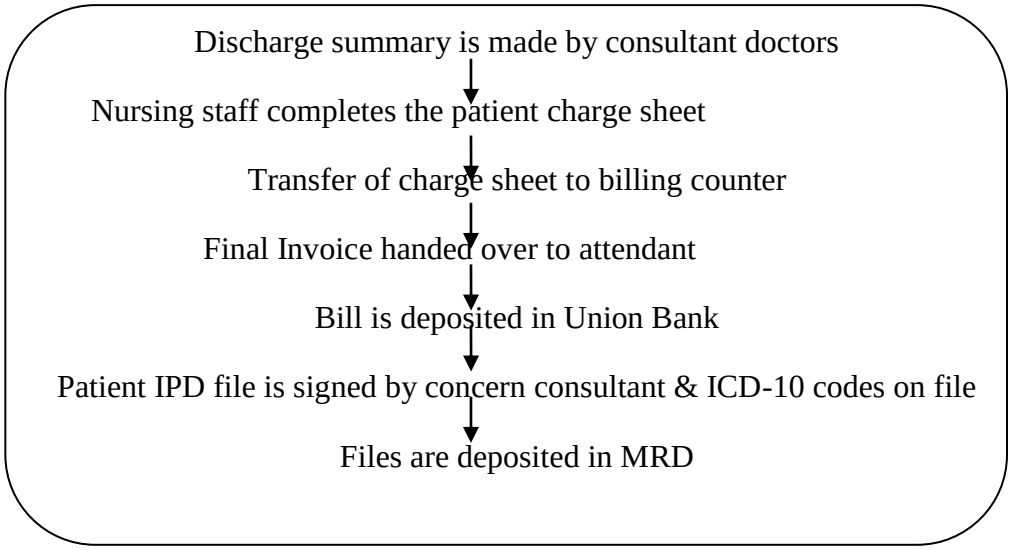
There are various types of equipments in wards which are listed in Table 6.

Figure 11: List of Equipments of Wards

S.N	CSSR Items	Cup Board Items	Trolley Items	Floating Items	Almeria Items	Emergency Tray
1	Scissors	B.P. Instruments	Tongue Depressor	Motor with Piston	Enema Can	E.T. Tube No.6.5,7,7.5,8,8.5
2	Suture Cutting Scissors	Stethoscopes	Ambu Bag	Cool Jug	Hot Water Beg	Airway
3	Ophthalmic Scissors	Thermometers	Dyna -Plaster	Weight Machine	SS(Big)	Megaforcep
4	Bowl Set	Hammer	Laryngo Scopic Plate	Extension Board	Nebulisation Machine	Ambubag
5	Dressing Set	Torch	Vaculaince holder	Patient Trolley with Mattress	Pulse Oxy meter	Nasal prong
6	L.P. Tray	Inch Tape	Needle Destroyer	O_2 Cylinder	Syringe Pump	High Conc. Mask
7	Aspiration Tray	Scale	Medicine Tray	Wheel Chair	Drug Tray	Wenflone No.20,18
8	Cut Down Tray	Stapler	Plastic Kidney Tray	IV stand	Water Mattress	Torniqutes
9	Eye Tray	Tailor Scissor		Cardiac Table	Induction Plate	Suture 3.0,4.0
10	Cotton Roll Tray	Glucometer		File Folder	Home Theater	Tegadern
11	Eye Swab Tray	Stamp Pad		Suction Set	Injections	Zylocaine jelly
12	Catheter Tray	Micro Drip Set		Urinal	Laryngoscope Blade	Drip Set
13		Blood Set		Bed Pan	ECG Lead	Ring
14		3-Way		Stool Pan	O_2 Cyllinder	Sterlile Gloves
15		Wenflone No.22,20,18		Laundry Beg	Torch	Suction Set
16		Marker Pen		Plastic Box		T-piece
		Nasal Prong		Mug		Nebulization Mask
		Gluco Strips		Plastic Bucket		O_2 mask
17		O_2 Mask		Pillows		Medicine Box
18		Air Way		Height Scale		Rubber Suction
19		Folleys Catheter		Walkers		Micropore with Cutter
20		Uro Bag		ECG Machine		ET shelle
21		Paid O_2 Mask & Drip Set		Medicine Box		
22		Doctors Seal		Laundry Items		
23		Surgical Gloves		Patient Gown		
24		T-piece		Hand Towel		
25		Punching Machine		Blanket		
26		Nebulisation Mask				
27		B-D Syringe				

Note: There is Nurse Call Systems for Private Rooms to cater better services in private rooms.

Figure 12 Discharge Process & Documentation



10.12 Cath. Lab

- Cath.lab is situated at first floor of IPD Building adjacent to Cardiac O.T. It is a certified Lab for Invasive Radiology.
- This is one of the oldest Cath.lab in Jaipur which installed before 40 years. It had renovated in 2009 with new Phillips equipments.
- Maintenance of this is seen by company persons in every 6 months.
- It has three rooms: Outer room is Computer room &Registration room; adjacent to this room is scrub & changing room; inner room is procedure room.
- Timing of Cath.lab is 9Am to 11Pm.in emergencies technician is called it off.
- Total no of staff is 10 in which two of were Cath. Lab technicians.
- Average 5-6 cases are coming per day in cath.lab.
- All consumables and emergency medicines requirement send by monthly indent to store in last week of every month and this will be delivered in first week of next month.

10.13 Operation Theatre

There are total five Operation Theatres in Hospital which has 11 Operation rooms.

Figure 13: Description of O.T

O.T. Name	O.T. Room No.	Type of Surgery performed
Old O.T.	Old O.T.-1	Cardiac Surgeries
	Old O.T.-2	Neuro-Surgeries
New O.T.	New O.T.-1	Gynaecology Surgeries
	New O.T.-2	Gastrointestinal Surgeries
	New O.T.-3	Plastic Surgeries
Terrance O.T.	Terrance O.T.-1	Infected Surgeries including Gen.& Ortho
	Terrance O.T.-2	General, Orthopaedics & paediatrics Surgeries
	Terrance O.T.-3	Clean General & Ortho. Surgeries
	Steel O.T.	Joint Replacement Surgeries

Urology O.T.	Urology O.T.-1	Urology-surgeries
Eye O.T.	Eye O.T.-1	Ophthalmology Surgeries

Figure 14: Equipment list for Operation Theatre

S.N.	Cardiac OT	General surgery OT	Joint Replacement (Steel) OT	Urology OT	Neurosurgery OT	Eye OT
1	OT Table	OT Table	OT Table	OT Table	OT Table	OT Table
2	OT Light	OT Light	OT Light	OT Light	OT Light	OT Light
3	Cautry Machine	Cautry Machine	Cautry Machine	Cautry Machine	Cautry Machine	Cautry Machine
4	Multipara Monitor	Multipara Monitor	Multipara Monitor	Suction Machine	Multipara Monitor	Multipara Monitor
5	Monitor Arterial	Pulse Oxy meter	Automatic Tourniquet System	Pulse Oxy Meter	Colour Video Printer	Pulse Oxy meter
6	Heart Lung Machine	Electronic Endoflator	C-Arm	C-Arm	C-Arm	Micro diathermy
7	Anaesthesia Ventilator	Anaesthesia Ventilator	Anaesthesia Ventilator	Anaesthesia Ventilator	Anaesthesia Ventilator	Anaesthesia Ventilator
8	Boyles Apparatus	Boyles Apparatus	Camera	Boyles Apparatus	Camera	Boyles Apparatus
9	Anaesthesia Workstation	Anaesthesia Workstation	Cutter Control Knee Joint	Lithotripter	VCR	Phaco emulsifier
10	Steam Sterlizer	Camera	Steam Sterlizer	MPM	Operating Microscope	Operating Microscope
11	Light Source	Light Source	Light Source	Light Source	Light Source	Cold Light Source
12	Air Purifier	ESU	Fluid Warmer		Air Purifier	Cryo Machine
13	Defibrillator	Unidrive GYN	Body Warmer			Virectomy
14	Haemotherm-CSZ	Harmonic Scalpel				ENT Micro motor
15	ACT-Machine	ATS			Drill Machine	ENT drill
16	Sternal Saw Cutter	Tourniquets				
17	Syringe Pump	Syringe Pump				
18	Steel Wire Cutter	Xenon Light Source 300W				
19	TEE Probe	30^0HD Endoscope				
20	Cardio Plesia Monitor					

10.14 Wrist Band Colour Coding:

A band is tied on patient wrist which has general information of patient like patient name, IPD no., ward name in which patient admitted and date of admission. This is tied only for following admitted patients:

Figure 15: Wrist Band Color Coding

Blue	Surgical Patient (Patient Going for any Surgery)
Pink	Newly born baby and delivered mother
Orange	Vulnerable patients (65years>Patient Age< 14years)

"Nanhi Chaan":- Save the Girl Child Campaign

Every mother who had delivered girl child has given a small plant (Tulsi) at the time of discharge. The concept behind this is to care that plant as their child.Outside labor room blue balloon for newly delivered male child while pink balloon for newly delivered female child.

10.15 Security

Security Service of SDMH IPD building is outsourced. The contract is renewed every year. There are three duty rosters of security persons which as follows:

Figure 16: Security Duty Rosters for IPD

Shift	Timing	No. of Security guards
Morning	6.00Am to 2.00Pm	18
Evening	2.00Pm to 10.00Pm	10
Night	10.00Pm to 6.00Am	7

There are total 35 security guards in IPD building amongst which maximum of them are present during the morning shift because of maximum no. of visitors are in morning hours and minimum no is required during night time .

Every patient is provided single attendant pass during admission. Only for neurological cases or special recommendation by concerning consultant the extra attendant pass is provided to the patient with extra payment of 100 Rs at admission counter in which 90Rs is refundable at the time of discharge.

10.16 Critical Care Area

There are total 63 beds in critical care areas of the hospital. The occupancy is much higher in that area of hospital which is approximately 95%. Distribution of critical care area has given below:-

Figure 17: No & Strength of Critical Care Unit

Name of ICU	Bed Strength	
Step Down ICU-1	11	It also known as High Dependency Unit(HDU).
Medical Critical Care Unit-1	10	It also known as Step Down ICU-2.
Medical Critical Care Unit-2	10	Intensive Care for medical patient provided here.
Surgical Critical Care Unit	7	It caters the services for cardiac surgery patients.
Paediatric Intensive Care Unit	7	Dedicated to provide intensive care for Childs.
Surgical Intensive Care Unit	8	Post surgical intensive care is provided here.
Neuro-Science Intensive Care Unit	10	Dedicated to provide Intensive Care for Neurological patient.

Equipment List of ICU

- Multipara Monitor
- Defibrillator
- ECG Machine
- Syringe Pump
- IABP
- Blood Storage Cabinet
- Temp. Pacemaker
- Ventilator
- Bi PAP
- Patient Blanket
- Pulse Oxy meter
  There are Specific equipments that required in Neonatal and paediatric ICU as follows:
- Radiant Heat Warmer
- Digital Weighting Scale
- Nebulizer
- Infant Ventilator
- Incubator

10.17 Emergency

Department of Emergency is located at ground floor of IPD building. It caters 24*7 services. Patient coming at emergency required to deposit Rs.200 as file charge or registration charge at admission counter. From there patient get their unique identity no.

There are three duty rosters in each shift with one doctor and three staff nurse. In emergency doctors are ACLS/BLS certified. Training for this conducted by hospital time to time.

There are four beds in emergency normally 30-35 patients visit per day in this department. Frequently coming emergencies are fall injuries, Cardiac emergencies and poisonous intake etc.

There is minor OT in emergency department for suturing and other minor procedures. In minor OT there is an OT table, High Mask Light and Emergency Medicines are there.

List of Equipment in Emergency Department

- Crash cart
- Defibrillator
- ECG Machine
- Pulse Oxy meter
- Suction

10.18 Ambulance Services

There are total 8 ambulances in SDMH. Two of them are critical care ambulances amongst which one is fully equipped with life saving equipments like ventilator, defibrillator, O_2 cylinder, and emergency medicine...etc one of them are donated by State Bank of Bikaner & Jaipur.

10.19 Hospital Management Information System

The hospital has own management information system. It covers the following arena.

- Blood Bank management Information System
- IPD Management Information System
- Medical Record Management Information System
- OPD management Information System
- Operation Theatre Utilization information System
- Pay Roll information System
- Pharmacy Retail Chain Management Information System
- Ward Management Information System
- Lab information System

10.20 Central Sterilization Room

- It caters the services for Wards and ICU etc.
- Separate autoclave is present in OT's.
- Autoclave machine and ETO is present for sterilization.
- There is separate entry and exit door in CSR.
- Replacement system is been followed.
- Bow dick's test is done to check the sterilization.
- Human resources: total no of staff is four in which two are trained in sterilization procedures.
- The items are packed before coming to CSR to prevent mixing of items.
- Sterilized items were issued for ward at particular time in morning between 7.30Am to 7.45Am and in Evening between 2.30Pm to 3.00Pm.

10.21 Dietary Services

- Dietary services of hospital are on contract basis which is renewed every year. For IPD patients' contractor has payee by hospital on per plate basis.
- A dietician is appointed by hospital to prepare the diet schedule of every patient according their requirement. Dietician takes round on every morning and take note on the patient required diet.
- Diet charges are included in Bed/Room/Ward charges .Normally 5 meals are given to the patients in wards while in private rooms 7 meals are given to the patient.

- There are different diets for patients with Diabetes Mellitus, Hypertension, Renal disease or cardiac disease.
- Food trolleys temperature is kept at 50 degree Celsius.
- Weekly scheduling of diet is done by hospital appointed dietician as well as canteen own employed dietician. In absence of hospital dietician canteen employed dietician has to work.
- There is a separate arrangement of food preparation for patient which require more hygiene and for attendants.

11. OTHER SERVICES

11.1 Avedna Ashram

It is a charitable based hospice of 82 beds, where it provides a home for patients with terminal illness. It provides free shelter, food and care to terminally ill patients mainly suffering from cancer and pelagic patients of Rajasthan and neighbouring states.

11.1.1 Human Resources

- 4 Volunteering Nuns + 1 Nursing Aid + 1 Ward Boy

11.1.2 Infrastructure: Avedna Ashram comprises of three floor comprising of:

1st Floor

- Female ward- 21 Beds
- Male ward- 21 Beds
- Central ward- 10 Beds

2nd Floor

- Male private rooms- 9 rooms- 11 Beds
- Female private rooms- 7 rooms- 9 Beds
- Central ward- 10 Beds
- 1 Common TV Room

3rd Floor

- Coordinator Room
- Staff staying room
- Trustee Member Meeting Hall
- Prayer Room

11.1.3 Services

- Free palliative, medical and nursing care to terminally ill cancer patients with free boarding and lodging.

- Ostectomy care services.

11.2 Ananth Bhandhari Day Care Centre

It mainly looks after the spiritual, academic, intellectual and creative needs of the senior citizens through yoga, medication, music, reading lectures etc. They also provided with subsidized lunch and free tea and snacks.

11.2.1 Services

- Care of body, mind and soul through religious prayers and programmers etc.
- Common prayer room is provided for patients in Avedna Ashram and senior citizens at day care centre.

11.3 Mortuary

It is one of the support services of a hospital. Here the dead bodies of patients who die in the hospital are kept. They are kept either due to delay in their funeral or due to any medico legal reasons.

It is located in the basement of Avedna Ashram. A single insulated room were dead body is kept in the room. At a time 3 dead bodies can be kept in the room.

- Last rites services according to written request of the patients.
- AC mortuary services.

11.4 Stores & Purchases

This department is primarily responsible for inviting quotations, negotiating, purchasing and issuing desirable medical /general, capital/consumables to various departments of hospital.

Figure 18: Organisation Hierarchy of Store and Purchase

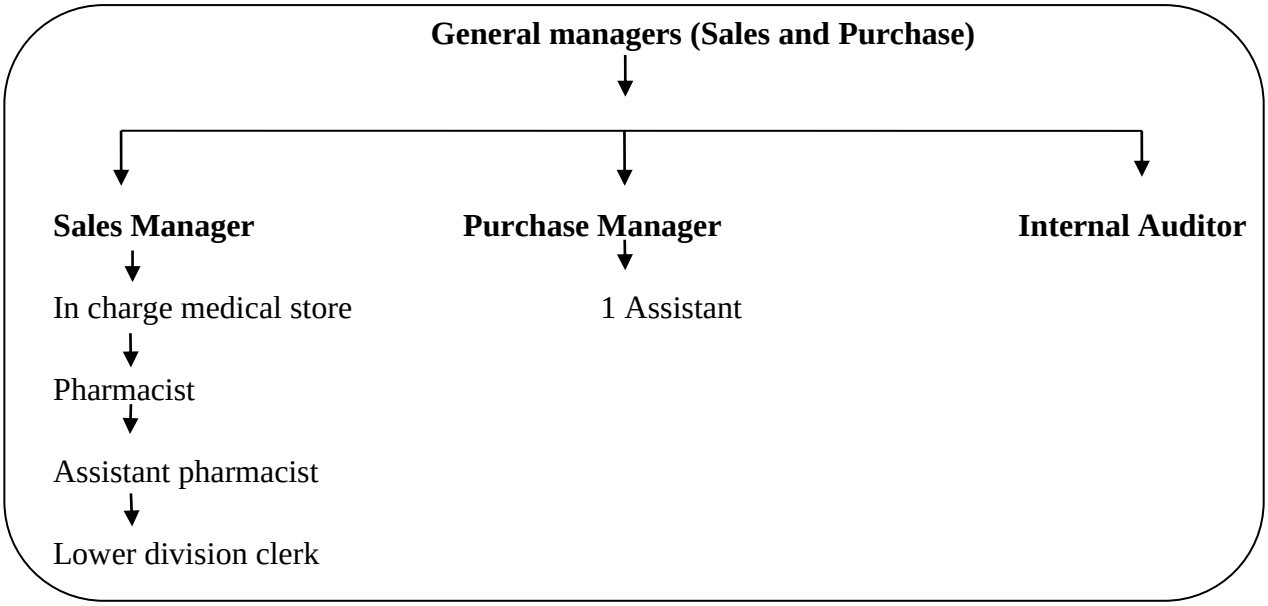
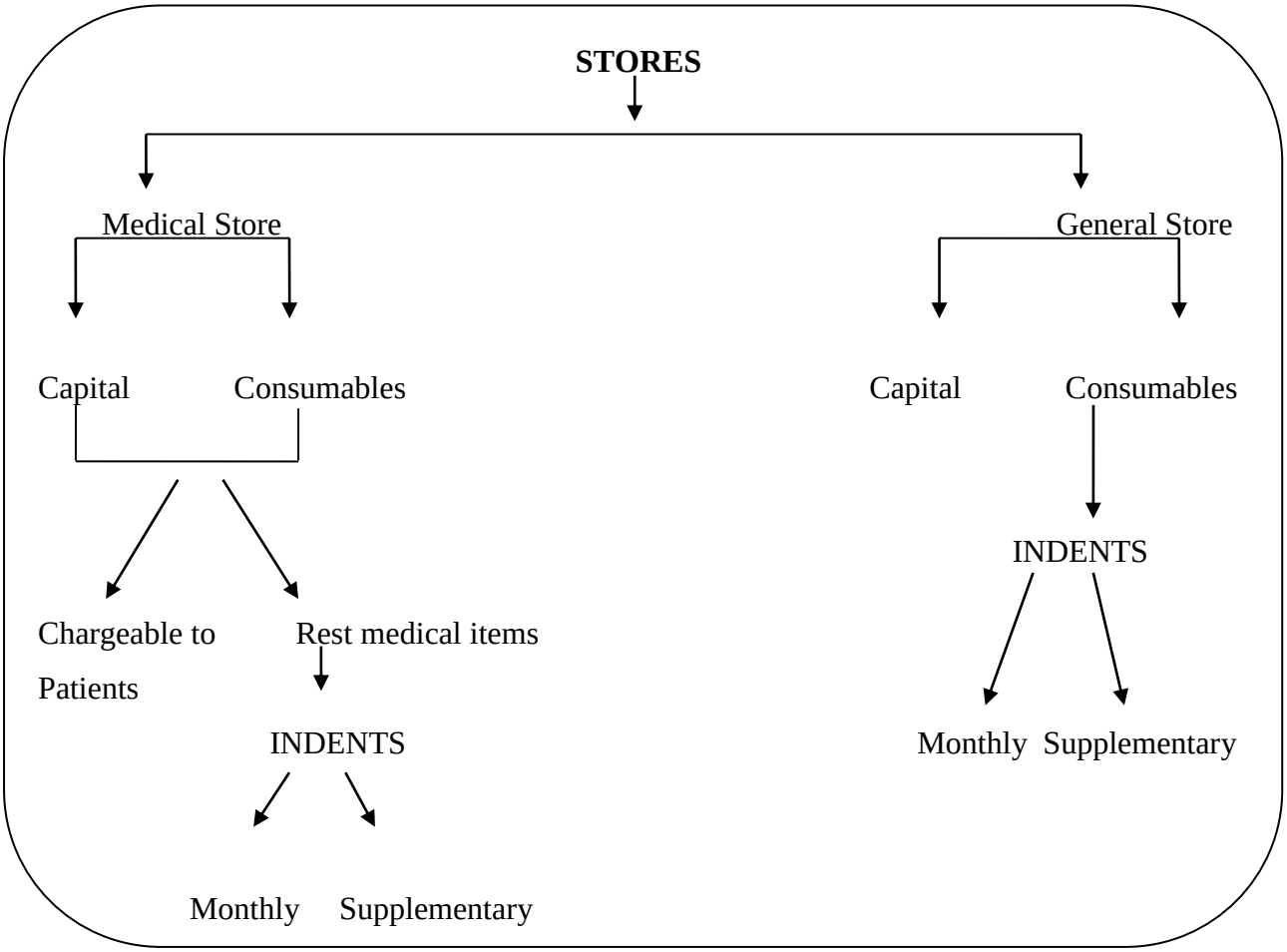


Figure 19 Process Flow for indenting the items in Hospital from Store



11.4.1 Process of procuring Capital Items for new items:

It includes both medical and general capital items-

Step 1- Order is received from respective department during the specific period i.e. beginning of calendar year.

Step 2- Quotations are being invited on the above requirement.

Step 3-All the quotation are shown to the head of the department as per there requirement.

Step 4- Items are purchased as per the head's direction.

Step 5- After the procurement items are send directly to the respective department.

Step 6- After the assurance of the item up to the mark, payment is being made by accounts departments.

Important points:

- List of new items to be procured is being made at the beginning of the financial year
- Purchase department can take decision regarding capital items of up to Rs. 20,000 only i.e. controller of stores.
- Further the capital purchase of more than Rs. 20,000 the decision is being taken by capital purchase committee.
- Advisor to secretary is head of this department.

11.4.2 Process for Replacement of capital items:

If a equipment is a replacements then,

Step 1- department fills the breakage form

Step 2- the form is been send to MS.

Step 3- MS further directs the BMW and engineer service department to check and verify the request.

Step 4- on the above approval the new equipment is been ordered in a planned mannered.

Important point

- Medical equipments – bio medical workshop
- Other all equipments- engineering service department

11.4.3 Process involved in obtaining and supplying consumables

Consumables are supplied to every department through indents. These indents are of two types monthly and supplementary. This is applicable for both medical and general consumables.

11.4.4 Monthly Indents

- Every department send their requirement in specific format i.e. monthly indent.
- The indents are being filled and send between 25^{th} to last date of each month.
- On the basis of indents collected order of each department is being placed.
- The indents are been supplied to respective departments in first week of next month according to allotted dates.

11.4.5 Supplementary indents

In certain cases, if monthly indents fall short for any department then they send supplementary indent which includes the name and quantity of indent.

Important point:

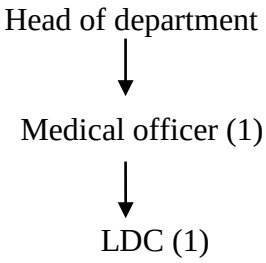
- There is list of standard indent according to respective department per bed. The quantity always remains fixed only price varies. This indent helps in keeping a control check on the consumption of consumables per bed in each ward.

11.5 Medical Record Room

The key functions of the department are:

- To keep the record of IPD patients and discharges from the hospital
- To maintain the IPD records of deaths
- To provide the records whenever requested as per the law and also to dispose of the old records according to the law.
- Bills verification for the government employees.

11.5.1 Human Resources



11.5.2 Equipments

Computer 1

11.5.3 Physical Facility

Rooms available 2

11.5.4 Activity Flow

(a) IPD Records

Patients discharge → Filling up charge sheet → Nurse enter it in ward register → Files comes to MRD → Entry in computer/ manually in register → Arranging file according to serial number.

(b) To get the file (Patients/ Attendant)

Application to MS → On approval of application → Photocopy of file is handed over

(c) For disposing of records

Report committee meeting is called and order is passed on the basis of unanimous decision of this committee. For disposal of records laws has to be followed

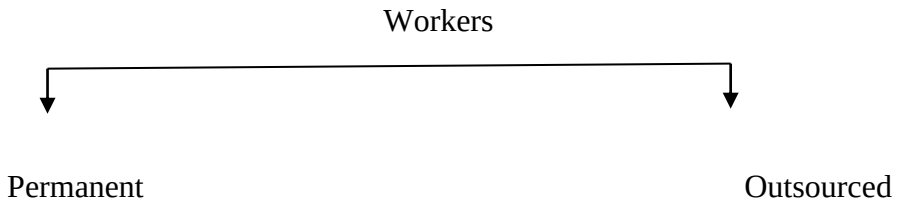
11.5.5 Important Points

- Birth and death records are available here from the year 1971- till date.
- Discharge records for
- Report committee comprises of MS, legal advisor and doctor.

- Insurance company has to pay Rs 500 for obtaining records of a patients
- SDMH has also municipality computer and employee for issuing birth and death certificate.

11.6 Housekeeping

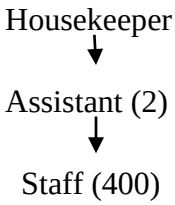
It is the in house department with a working staff of 400 and if and when required workers are outsourced.



11.6.1 Key functions

- To ensure the cleanliness of the hospital.
- To get cloths from wards to the laundry and make an entry and supply it back to wards.
- To make arrangement for various other function, conferences and camps.
- To collect the post and distribute it.

11.6.2 Human Resources



Note: Staff includes sweepers, ward boys, ward ladies and drivers

11.7 Maintenance Department

The maintenance department mainly includes workshop of:

- Carpenter
- Painter
- Mechanical
- Plumber

11.7.1 Human Resources

The total no of employees working in the department are 22.

- Maintenance: 4
- Carpenter: 4
- Painter :4
- Mechanical:6
- Plumber:4

11.7.2 Activity flow

Receive complain from respective department ⟶ Handed over to Maintenance supervisor ⟶ complaint is handed over to respective workshop for repair/Maintenance/construction ⟶ first line of repair/ maintenance is done by maintenance staff, if not then send it outside.

11.8 Bio Medical Engineering (BME) Department

11.8.1 Key functions

The main functions of the department are as follows:

- First line of repair and maintain all the Bio Medical Equipments of the hospital.
- Inventory management of instruments.
- Medical gas room maintenance

For maintenance of equipment in OT, ICU and wards AMC and CMC are given.

11.8.2 Human Resource

Bio Medical Equipment- 1 Assistant ⟶ 1 Technician

Medical Gas Room- 3Staff member/ 1 Reliever

11.8.3 Equipments

All basic and necessary tools related to their work.

11.8.4 Activity flow

Receive complain from department ⟶ estimate the budget for repair and followed by comment of the respective doctor ⟶ Handed over to GM, Purchase ⟶ DMS ⟶ MS Parcel is send to company workshop for repair ⟶ receive the parcel from company ⟶ functioning of equipment is checked by respective doctor ⟶ if satisfactory, payment is done.

11.9 Electricity Department

The main function of electricity workshop department is as follows:

- Electricity supply including emergency supply.
- Maintenance of AC and air cooling.
- Maintenance of central suction
- OT cautry wire
- Maintenance of hydraulic table- OT
- Oxygen pipelines
- Maintenance of centrally dry air compression
- Soft water processor

11.9.1 Human Resources

Supervisor
↓
Electrician
↓
Electrician Helpers

11.9.2 Duties Roaster

- Mainly deals with the maintenance part of instruments
- Functional 24*7

11.9.3 Workshop

- It mainly deals with the maintenance part of heavy instruments like vacuums
- Functional for 8 hours daily

11.9.4 Equipments

- AC plants
- Air compressor
- Digi sets
- Ducting system
- Generators
- UPS (Uninterrupted Power Supply)

11.10 Bank

- The hospital has a branch of a Union Bank as well as Bank's ATM inside the hospital campus.
- There is a direct transaction of monthly salary of hospital staff from hospital accounts section to the employee bank account.

11.11 Post Office

- Post office SDMH branch is present inside the hospital campus.

11.12 In Patient Attendant (IPA) Block

- It is a 50 bedded dharamshala providing accommodation facility for the attendants of the IPD patients.

11.13 Crèche

- Extended services in the form of crèche i.e. room with a pantry is present inside the hospital campus.
- It is mainly for the staff's children under 5 years of age.
- 4 helping staff is hired to take care of toddlers**.**

11.14 Recreational Room

- Keeping in mind the health of the resident doctors and staff quarter's a recreation room namely GYM is present.
- It is open during morning and evening time.

11.15 Laundry

- The laundry services in SDMH are outsourced and the contract is renewed annually.
- The cost per cloth is pre decided and monthly the payment is done on those bases.

- There were total 10 workers in the laundry.

11.15.1 Equipments

- 3 Machines are soaking the soiled and untainted linen.
- 3 Washing machines are present for washing purposing.
- 3 Blow dryer machines are present to dry the linen.
- 1 Roller for ironing is present.

11.16 Bio Medical Waste

This department is outsourced by the hospital. The waste is collected on the bases of colour coding which is as follows:

Blue: Glass, needle syringes and solid waste

Black: Municipality waste

Red: solid waste, plastic bags, mouth mask and head caps

Yellow: Cotton, gauze pieces etc

Important Points

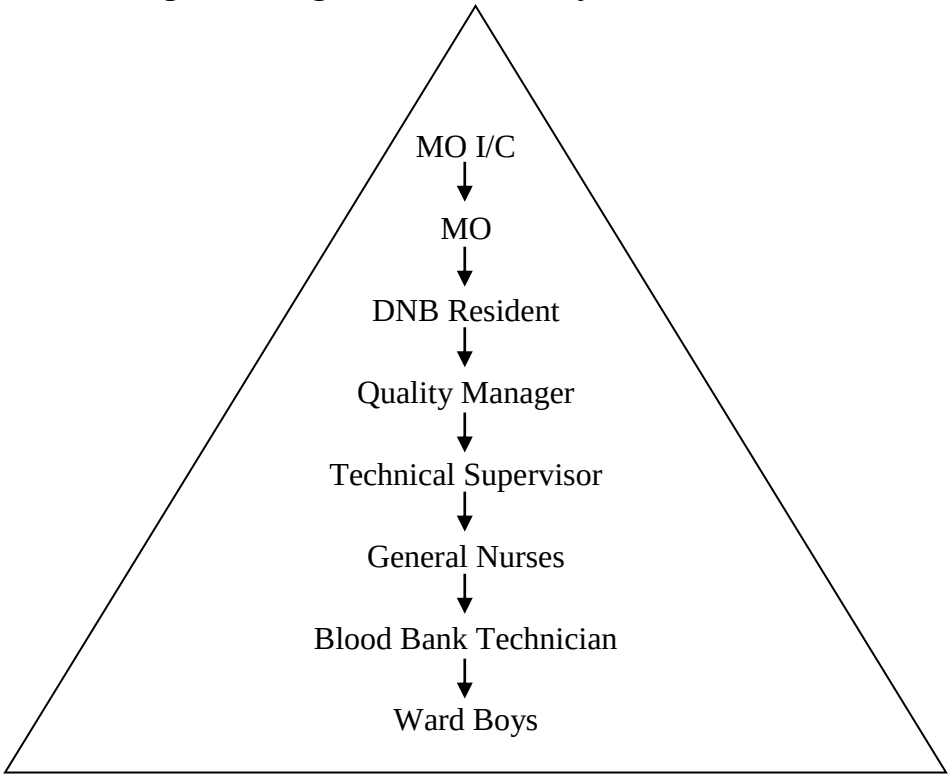
- The waste is been collected in the morning and further the waste is been taken by the contractor on the basis of weight.
- There is a separate exist of the waste to be disposed off.
- Currently the sewerage plant is under construction which will help in treating the contaminated water and further using it for additional purpose.
- There are 3 water harvesting system present inside the hospital campus, help in maintaining the water level and further used for gardening, washing and cleaning.

11.17 Blood Bank

The blood bank of SDMH was established in 1973, initially designed to meet the needs of in-house SDMH patients, but later converted to a state of the art multi-component blood bank and transfusion service by 2003. It is regulated by “Drug and Cosmetic Act”.

11.17.1 Organisation Hierarchy:- The below mention Figure 20 describes the Organogram of Blood Bank.

Figure 20 Organisation hierarchy of Blood Bank



11.17.2 Staffing

These many above personnel are mandatory according to the act. Other than the minimum obligation, personnel available

- Medical Social Worker
- Accountant
- Store I/C
- Computer Programmer
- Helper

11.17.3 Names of Components

- Whole blood
- Paediatric/ Divided RBC units
- Red Cell Concentrate
- Fresh Frozen Plasma
- Platelet Concentrate
- Old Frozen Plasma
- Single Donor Platelet concentrate
- Cryoprecipitate concentrate
- All components with Anti- HBc (Total) Tested
- All components of NAT (Nucleic Acid Amplification) Tested
- Tested Performed
- Blood Group ABO- Rh
- Rh- Antibody titre

- Coombs Direct test
- Coombs Indirect test
- Cold Agglutination
- HbA2 (Haemoglobin 2) Electrophoresis
- Rh phenotype and Kell (Antibody Screening)
- Complete Irregular Antibody Identification

11.17.4 Important Points

- Charges are set by joint decision of Hospital Transfusion committee, RSACS, and Health Directorate.
- It is basically a not for profit department therefore only cost is covered.
- Fund collected goes to hospital's account but have a separate sub account.

11.17.5 Process

Step1: Donor form → Medical social worker → Pre donation counselling

Step2: Hb test, it should be more than 12.5

Step 3: MO screening → General physical examination → Nucleic Acid Test

Step 4: Donors Room → Donation Completes → Refreshment Room

Step 5: TTD lab → Kept as whole blood → Components Preparation

Step 6: Components Preparation → RBC & Plasma → Platelets & Plasma Serums

Step 7: Labelling and storage

Step 8: Request come from patient with sample

Step 9: Sample → Serological lab → forward group test (Cell Grouping)/Reverse Group Test (Serum Grouping)

Step 10: Cross matching → minor (Serums)/ Major (Cells)

Steps 11: Coomb's Test (To find out unregulated anti bodies)

Steps 12: Compatible → Issue

11. Hospital projects and Assignments-

1. Analytical Study Of Nurse Staffing In A Multispecialty Hospital Of Jaipur.
2. Patient Complaints Analysis In Multispecialty Hospital Of Jaipur.
3. Book Assignment For Santokba Durlabhji Memorial Hospital Cum Research Centre.

Analytical study Of Nurse Staffing In A Multispecialty Hospital Of Jaipur.

Table of Contents

List of tables

Abbreviations:

SIU – Staff inspection unit

TNAI – Trained nursing association of India

INC – Indian nursing council

OPD – Outpatient department

IPD – Inpatient department

OT – Operation theatre

ICU – Intensive care unit

CSSD – Central sterile supply department

MICU – Medical intensive care unit

SCCU- Surgical cardiac care unit

NICU – Neonatal intensive care unit

SICU – Surgical intensive care unit

HDU – High dependency unit

Study of nurse staffing in a multispecialty hospital of jaipur

1. Introduction:

The primary function of a hospital is the provision of medical care to a community. In order to meet this demand, the hospital works through many departments, which deal with different kinds of services. Among all these services the nursing service is that part of the hospital which aims to satisfy the nursing needs of the patient and community. Nurse staffing is also an important determinant of patient safety. There is evidence that nurse staffing is directly correlated with patient, nurse, and system outcome. Nurse staffing has been measured in numerous ways. One operational term for nurse staffing, "nurse: patient ratio," is easiest to translate into policy and practice.

2. Review of literature:

2.1 In a survey of almost 220,000 Nurses from 13,000 nursing units in over 550 hospitals and a response rate of 70%, nurses reported to ANA that: 54% of nurses in adult medical units and emergency rooms do not have sufficient time with patients; overtime has increased during the past year with 43% of all Nurses working extra hours because the unit is short staffed or busy; and that inadequate staffing affected unit admissions, transfers and discharges more than 20% of the time.

2.2 The "Nurse Staffing Strategy," (released March 2013) at the American Organization of Nurse Executives conference, found nurse fatigue also can negatively affect operational costs, as well as patient and employee satisfaction. Among the findings:

- 39 percent of respondents found current staffing levels inadequate, while 38 percent found them unsatisfactory.
- 77 percent said their organization had 12-hour nursing shifts.
- 57 percent said workloads were not distributed evenly in the previous year, with 54 percent saying they had an excessive workload.

2.3 The research article (International journal of nursing studies, 2007) examines the effects of hospital-wide nurse staffing levels (nurse patient ratios) on patient mortality, failure to rescue (mortality risk for patients with complicated stays) and nurse job dissatisfaction, burnout and nurse-rated quality of care in the UK. The results show that patients and that patients and nurses in the hospitals with the highest nurse patient ratios had consistently better outcomes than those in hospitals with fewer nurses.

2.4 Hospitals with the worst staffing had an increased mortality of 26% and 29% in the "failure to rescue" group. The nurses in the hospitals with the worst staffing were up to 92% times more likely to show job dissatisfaction and burnout, and also rated the quality of care on their wards as "low" or "deteriorating" (Rafferty et al, 2006).

3. Objectives:

- To observe the nurse-patient ratio in a multi speciality hospital of Jaipur.
- To identify whether there exist any gap between nurse patient ratio according to INC, TNAI and SIU nurse patient ratio norms in the hospital.

4. Methodology:

4.1 Study design

Analytical → cross- sectional study

4.2 Study area

Study was carried out in a Multispecialty hospital of Jaipur

4.3 Source of study

Information were collected from nursing staff of multispecialty hospital of Jaipur and nurse staffing norms according to SIU, INC and TNAI

4.4 Data collection method

4.4.1 Primary data-

Primary data were collected from nursing in charge by interview using a semi structured schedule. It was carried out in each and every ward/department of IPD, staff nurse of every department of OPD and other supportive departments of hospital. In total 85 nurses were interviewed for this study. It is worth mentioning that the samples for this study were selected purposively.

4.4.2 Secondary data-

Secondary data were collected from:

- ✓ Matron office from maintained records for nursing staff and from nurse supervisor room from common attendance registers of hospital.
- ✓ Published data from different websites of SIU, INC and TNAI.

4.5 Data processing and Analysis

Compare the data, collected from hospital and nurse staffing norms given by SIU, INC and TNAI and find out the gap.

5. Lists of nursing staff of the hospital

5.1 IPD Departments

Name of ward	No of beds/patients	Total no of nursing	Total no of nursing staff	Total no of nursing staff	Remarks

		staff present	required as per SIU	required as per INC and TNAI	
General ward					
Urology	16	9	9	13	Sufficient according to SIU but insufficient according to INC and TNAI
Transit	29	15	17	23	Insufficient
Nephrology	14	8	8	11	Sufficient according to SIU but insufficient according to INC and TNAI
KMO A	18	7	10	14	Insufficient
KMO B	19	7	11	15	Insufficient
Conv. Gastro	21	12	12	16	Sufficient according to SIU but insufficient according to INC and TNAI
Conv. Medicine	20	14	11	15	More than sufficient according to SIU but insufficient according to INC and TNAI
Conv. Surgical	20	14	11	15	More than sufficient according to SIU but insufficient according to INC and TNAI
Colormaster	7	6	4	5	More than sufficient according to both
Transfusion	11	2	6	9	Insufficient
Special ward					
Paediatric	17	11	14	13	Insufficient
Neuroscience	34	14	28	27	Insufficient
Gynaecological	25	11	20	19	Insufficient
Dialysis	9	8	8	7	Sufficient according to SIU but insufficient according to INC and TNAI
Emergency	5	7	4	4	More than sufficient

					according to both
Labour room	4	12	13	5(1:3)	insufficient according to SIU but more than sufficient ratio according to INC and TNAI
ICUs					
MICU	8	15	26	31	Insufficient
SCCU	10	18	33	39	Insufficient
MCCU 1st	10	17	33	39	Insufficient
MCCU 2ND	7	9	23	27	Insufficient
SICU	7	14	23	27	Insufficient
PICU	7	11	23	27	Insufficient
PCU/IPU	20	16	66	78	Insufficient
NICU	10	20	33	39	Insufficient
HDU	11	15	36	43	Insufficient

Table 1-List of IPD departments

5.2 Operation theatres

Name of OT	No of OT tables	Total no of nursing staff present	Total no of nursing staff required according to SIU	Total no of nursing staff required according to INC and TNAI	Remarks
Terrace OT	4	20	26	26	Insufficient
Old OT	2	11	13	13	Insufficient
New OT	3	17	20	20	Insufficient
Eye OT(Minor)	1	2	4	4	Insufficient
Uro OT(Minor)	1	3	4	4	Insufficient

Table 2-List of Operation theatres

5.3 Other departments

Name of department	Total no of nursing staff present	Total no of nursing staff required according to SIU	Remarks
Blood bank	1	1	Sufficient
CSSD	2	3	Insufficient
Infection control nurse	4	4	Sufficient

Cath lab	3	3	Sufficient

Table 3-List of other departments

5.4 OPD Departments

Name of department	No of patients/ day	Total no of nursing staff present	Total no of nursing staff required according to SIU	Total no of nursing staff as per INC and TNAI	Remarks
Cardiology	205	0	1	2	Insufficient
Gynaecology	51	0	2	1	Insufficient
Medicine	117	0	1	1	Insufficient
Neurology	67	0	2	1	Insufficient
Neuro surgery	15	0	1	1	Insufficient
Dermatology	17	0	3	1	Insufficient
Nephrology	23	0	1	1	Insufficient
Endocrinology	17	0	1	1	Insufficient
Urology	18	0	1	1	Insufficient
Paediatrics	48	0	2	1	Insufficient
Gastrology	65	1	1	1	Sufficient
Vaccination	12	1	2	1	Insufficient as per SIU but Sufficient as per INC and TNAI
Plastic surgery	8	0	1	1	Insufficient
Orthopaedic	57	0	1	1	Insufficient
Eye	28	1	1	1	Sufficient
ENT	28	0	1	1	Insufficient
Psychiatry	13	1	2	1	Insufficient as per SIU but Sufficient as per INC and TNAI
Dental	8	0	1	1	Insufficient
Injection room	6	1	1	1	Sufficient

Table 4- List of OPD departments

5.5 Investigations

Name of investigation	No of patients /	Total no of nursing	Total no of nursing staff	Remark

	day	staff present	required according to SIU	
Broncoscopy	5	1	1	Sufficient
x-ray	80	0	2	Insufficient
Microbiology	200	1	1	Sufficient
Sample collection centre	200	0	1	Insufficient

Table 5 – List of investigations

6. Principle findings:

6.1 Highest gap areas less than requirement-

6.1.1 According to SIU

Rank	Name of department	Gap
1st	PCU/IPU	50
2nd	HDU	21
3rd	MCCU 1st	16
4th	SCCU	15
5th	NICU	13

6.1.2 According to INC and TNAI

Rank	Name of department	Gap
1st	PCU/IPU	62
2nd	HDU	28
3rd	MCCU 1st	22
4th	SCCU	21
5th	MCCU 2nd	18

6.2 Highest gap areas more than requirement-

6.2.1 According to SIU

Rank	Name of department	Gap
1st	Emergency	3
1st	Conv. Medicine	3
1st	Conv. Surgical	3
2nd	Colormaster	2

6.2.2 According to INC and TNAI

Rank	Name of department	Gap
1st	Labour room	7
2nd	Emergency	3
3rd	Colormaster	1

6.3 Lowest or zero gap areas (according to norms)-

6.3.1 According to SIU

- Urology
- Nephrology
- Dialysis
- Blood bank
- Cath lab
- Infection control nurse
- Gastrology
- Eye
- Infection room
- Broncoscopy
- Microbiology

6.3.2 According to INC and TNAI

- Gastrology
- Vaccination
- Eye
- Psychiatry
- Injection room

7. Results:

Nurse to patient ratio in the multispecialty hospital of jaipur is very low. There are noticeable differences in the nurse staffing of hospital and nurse staffing norms given by INC, TNAI and SIU. There is lack of nursing staff in the hospital.

8. Recommendations:

- Need to be recruit additional nursing staff in the hospital.
- A hospital can employ a group of "float" staff who, rather than staying allocated to a particular area, will move from ward to ward to assist during busy periods or peak hours in the hospital.
- Nurse to patient ratio should be adequate in the hospital.
- Staff nurses should have more experienced and trained in the multispecialty hospital.

9. Conclusion:

In this hospital the nurse to patient ratio is below the minimum nurse patient ratio given by SIU, INC and TNAI. Although providing additional staff would be costly, therefore as per one of the above recommendations of the study the hospital may look into the option of a group of float staff. Recruitment and retention would almost certainly improve and in the long run this should reduce spending. Staffing needs to be considered over the long term.. A study looked at nurse-to-patient ratios, which were between1:4 at best and 1:8 at worst. Aiken et al (2002) concluded that patients on wards with the worst staffing ratios had a 31% increase in mortality. Low staffing level can lead to adverse outcomes, in terms of increased mortality and staff exhaustion which can affect hospital reputation and health care system of the state.

Nursing personnel usually constitute the largest proportion of the hospital. A hospital may be soundly organised, beautifully situated and well equipped but if nursing care is not of quality the hospital will fail in its responsibilities.

10. References:

1. Trained nurses association of india. Nursing administration and management.1st edition. TNAI publication ; new delhi 2000.
2. American Nurses Association. (1996). Nursing Quality Indicators: Definitions and Implications. Washington.
3. http://currentnursing.com/nursing_management/staffing_nursing_units.html
4. http://www.ncbi.nlm.nih.gov/pmc/articles/PMC2653880/
5. http://nihfw.org/pdf/Nsg%20Study-Web/West%20Bengal%20Report.pdf
6. http://www.anfvic.asn.au/campaigns/news/41896.html
7. http://rnjournal.com/journal-of-nursing/literature-review-safe-nurse-staffing.
8. Dr. Ashok Kaushik Essentials of Hospital services Teaching module PGDHM 17 2012-2014

2. Patient Complaints Analysis In Multispecialty Hospital Of Jaipur.

- Took patients details of each and every ward including private rooms patients with their complaints.
- Analysed that complaints and try to find out solutions of patient'complaints.
- Duration- 15 days, from 21st may to 5th June.
- Under the guidance of PRO(Public relation officer).

3 .Book Assignment For Santokba Durlabhji Memorial Hospital Cum Research Centre.

- I have done book assignment for SDMH named FACTS AND MYTHS.
- Duration: 15 days, 11th April to 25th April.
- Concise the book based on medical facts and myths under the guidance of Deputy Medical superintendent.

ANNEXURE

OTHER BASIC AMENITIES

- Parking
- Dairy booth
- Telephone, Photostat & fax facilities
- Temple
- Cafeteria
- Canteen
- In patient attendant Block
- Crèche
- Recreational room (Gym)
- Doctors quarters
- Post office
- Union Bank
- Union Bank ATM
- Conference hall
- Auditorium

EXTENSIONAL SERVICES

- Outreach Camps
- Free distribution of medicines
- Mobile medical van
- Free treatment for BPL patient referred from SMS, Hospital
- Nursing college
- Transportation facility for terminally ill patient to SMS, Hospital
- Blood Bank Bus for donation
- Golf car (pick & drop services)
- ICU ambulance for transferring the patient as per the requisite

OUTSOURCED DEPARTMENT

- Pharmacy
- CT Scan & MRI Centre

CONTRACTED DEPARTMENT

- Bio medical waste disposal
- Laundry
- Canteen
- Cafeteria
- Security