Rationalizing of Operation Theatre Pharmacy Inventory of Global Hospital, Lakdi ka Pul, Hyderabad

Submitted in the Fulfillment for Dissertation at Global Hospital, Lakdi ka Pul, Hyderabad

(February 22, 2016 to May 14, 2016)

By

Dr. Kopal Mehrotra

Enrollment No: PG/14/027

Under the Guidance of

Dr. A.K.Agarwal, Professor & Dean Academics

&

Mrs. Anita, Head of Central Pharmacy

Post Graduate Diploma in Hospital & Health Management
2014-2016

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The certificate is awarded to

Dr. Kopal Mehrotra

In recognition of having successfully completed her internship in the department of

Administration

and has successfully completed her Project on

Fixing of operation theatre pharmacy inventory

22nd February 2016-15th May 2016

Global Hospital, Lakdikapul, Hyderabad

She comes across as a committed, sincere & diligent person who has a strong drive and zeal for learning

We wish her all the best for future endeavors

PROJECT GUIDE:
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Head of Department, Central Pharmacy
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GLOBAL HOSPITALS HYDERABAD

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unit of Ravindranath GE Medical Associates Pvt. Ltd.

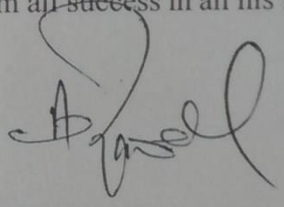
TO WHOMSOEVER IT MAY CONCERN

This is to certify that **Dr. Kopal Mehrotra**, student of Post Graduate Diploma in Hospital and Health Management (PGDHM) from International Institute of Health Management Research, New Delhi had undergone training at **Global Hospital, Lakdi ka Pul, Hyderabad** from **22.02.2016** to**14.05.2016**.

The candidate has successfully carried out the study designated to him during dissertation training and his approach to the study has been sincere, scientific and analytical.

The Dissertation is in fulfillment of the course requirements.

I wish him all success in all his future endeavors.



Dr. A.K. Agarwal
Dean, Academics and Student Affairs
IIHMR, New Delhi

Certificate of Approval

The following dissertation titled "**Rationalizing of OT Pharmacy Inventory Stock of Global Hospital, Lakdi-ka-Pul, Hyderabad**" is hereby approved as a certified study in management carried out and presented in a manner satisfactorily to warrant its acceptance as a prerequisite for the award of **Post Graduate Diploma in Health and Hospital Management** for which it has been submitted. It is understood that by this approval the undersigned do not necessarily endorse or approve any statement made, opinion expressed or conclusion drawn therein but approve the dissertation only for the purpose it is submitted.

Dissertation Examination Committee for Evaluation for Dissertation

Name of the Member	Signature
Kirti Udayai	Kirti Udayai
Dr A K Agarwal	Agarwal

Certificate from Dissertation Advisory Committee

This is to certify that **Miss kopal mehrotra,** a graduate student of the **Post- Graduate Diploma in Health and Hospital Management** has worked under our guidance and supervision.She is submitting this dissertation titled " **Fixing of operation theatre pharmacy inventory** " in partial fulfillment of the requirements for the award of the **Post-Graduate Diploma in Health and Hospital Management.**

This dissertation has the requisite standard and to the best of our knowledge no part of it has been reproduced from any other dissertation, monograph, report or book.

Dr A.K. Aggarwal
Professor and Dean(Academics
IIHMR, New Delhi

MRS Anitha
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INTERNATIONAL INSTITUTE OF HEALTH MANAGEMENT RESEARCH, NEW DELHI

CERTIFICATE BY SCHOLAR

This is to certify that the Dissertation titled "**Rationalizing of OT Pharmacy Inventory Stock of Global Hospital, Lakdi ka Pul, Hyderabad"** has been submitted by **Dr. Kopal Mehrotra**, Enrollment No. **PG.14.027** under the supervision of **Dr. A.K. Agarwal, Dean, Academics &Student Affairs**, for award of Postgraduate Diploma in Hospital and Health Management of the Institute carried out during the period from **22.02.2016** to **14.05.2016** embodies my original work and has not formed the basis for the award of any degree, diploma associate ship, fellowship, titles in this or any other Institute or other similar institution of higher learning.

Kopal

Signature

FEEDBACK FORM

Name of the Student: Miss KOPAL MEHROTRA

Dissertation Organisation: GLOBAL HOSPITAL (LAKDI KA POOL) HYDERABAD

Area of Dissertation: ADMINISTRATION

Attendance:

Objectives achieved:

Deliverables:

Strengths:

Suggestions for Improvement:

Signature of the Officer-in-Charge/ Organisation Mentor (Dissertation)

Date:
Place: HYDERABAD

Dissertation Writing 25

Global Hospitals

About the Hospital

Global Hospitals Group, India's most renowned healthcare services provider offering better care, cutting-edge research and advanced education to caregivers, is one of the country's fast growing chains of Multi Super Specialty Tertiary Care Hospitals offering healthcare services of international standards. A 2000-bed Multi Super Specialty Tertiary Care facility spread across Hyderabad, Chennai, Bangalore and Mumbai, Global Hospitals is a pioneer in Multi-Organ Transplants including kidneys, liver, heart and lung.

The Group offers most advanced clinical services across several disciplines such as Gastroenterology, Hepatobiliary & Liver, Cardiac Sciences, Neurosciences, Orthopaedics & Joint Replacements, Organ Specific Cancer Care, Urology & Nephrology, Plastic & Reconstructive Surgery, Minimal Access & Bariatric Surgery, Critical Care & Pulmonology, Trauma & Emergency Care, ENT, Transfusion Medicine and other support specialties accessible to all the segments of the society with utmost care and compassion.

With a vision to be a world-class healthcare provider turning distant possibilities into realities, Global Hospitals utilizes a strong combination of clinical expertise, advanced technology, world-class infrastructure and facilities is to deliver high quality medical services of international standards. Having collaborations with several leading Indian and internationally reputed academic institutions, the Group offers a wide array of academic programmes for both medical and non-medical professionals. Recognized by the government bodies for research, the Group has made significant strides in advanced medical research programmes including Stem Cell and Regenerative Medicine Programmes.

WHEN WAS IT STARTED?

Founded in 1999 at Hyderabad (India) with 150-bed tertiary care hospital, Global Hospitals Group is acclaimed nationally and internationally for its excellence in clinical care. After establishing a second 300-bed hospital in 2002 at Hyderabad, the Group went on to establish a chain of super specialty hospitals across other major cities in India.

To meet the changing needs of the community and provide comprehensive range of healthcare services to all the sections of the society, the Group made remarkable growth and expansions over the past few years. This culminated into opening of Global Health City, a 27-acre Multi Super Specialty 500-bed quaternary care facility in Chennai, built according to the International Standards and quality benchmarks. In addition, the Group went on to established Global Hospitals, Bengaluru, a 500-bed state-of-the-art multi-disciplinary tertiary care hospital with world-class facilities, and Global Hospitals, Mumbai, a 450-bed multi-super specialty and multi-

organ transplant facility at the financial capital of India. These facilities are an expression of Global Hospitals Group's fundamental mission of service excellence.

With latest technology, integrated research processes, multi-disciplinary capability, best clinical practices and education, state-of-the-art facilities, world-class infrastructure and excellent patient care, Global Hospitals has now become the most advanced and progressive healthcare leader in India.

As part of its Corporate Social Responsibility, Global Hospitals works in collaboration with local partners to regularly assess and address the healthcare needs of the communities it serves, producing marked improvements in their health.
Global Hospitals Group is committed to providing world class tertiary healthcare to people in India and abroad by fusing the benefits of modern technology with the clinical acumen of the leading specialists in their respective fields.

MISSION

The Mission of Global Hospitals Group is to achieve the dream of a healthy world through continuous innovation, dedication to quality, provision of compassionate and affordable medical services.

To carry out this mission Global Hospitals strongly believes in

- Deploying state-of-the art facilities and equipment
- Attracting the most talented medical, scientific and support staff
- Providing affordable health care of unsurpassed quality
- Exceeding service expectations
- Adhering to professional and scientific integrity
- Embracing change and encouraging innovation

VISION

To be a world-class medical services provider turning distant possibilities into today's realities.

Located strategically across major cities in India, Global Hospitals Group offer a unique environment where friendly attitude and personal touch of a neighborhood hospital merge with leading-edge technologies, extensive research resources and tremendous opportunities of a prestigious healthcare network. The result is a dynamic and rewarding setting delivering better clinical outcomes for patients by doctors, nursing and allied health professionals.

The Group's commitment to create a positive experience for all the patients who walks through its doors influences every facet of care, and applies across all levels of the organization. As a result, Global Hospitals are known as national players in healthcare delivery providing the highest level of patient satisfaction.

The Group, led by a highly renowned team of specialists and visionaries, was named as India's most admired, promising healthcare provider and hospitals chain by Frost & Sullivan, a leading business consulting firm that offers market analysis, market research, and reports.

With a proud tradition of medical excellence, as evidenced by many of its 'firsts' and medical breakthroughs, Global Hospitals strives to provide quality healthcare, where the most advanced treatments are delivered by the region's leading medical professionals. Some of the 'firsts' by the Group include:

- First Pediatric Auxiliary Liver Transplant in Asia
- First Hospital in South Asia to perform Pediatric Auxiliary Liver Transplant
- First Hospital in South Asia to perform the Nucleus Replacement in Spine
- First Successful Split & Auxiliary Liver Transplant Surgery in India
- First Successful Combined Heart & Kidney Transplant Surgery
- First successful Single Lung Transplant in India
- First Successful Minimal Access Lung Transplant in India
- First Swap Liver Transplant on adults in India

Global Hospitals, Hyderabad, Lakdi-ka-pool

The Hyderabad - Lakdi-ka-pool location of Global Hospitals is where Global Hospital's journey began. The 200-bed facility offers multi-speciality, multi-organ transplantation services with world class infrastructure and top notch physicians & staff.

A:Front office:-

The front office of global hospitals is a hub of all the important activities happening in the hospital. There is a main entrance from where all the patients and attendants come in and a reception area where the patient registrations take place.

PATIENT REGISTRATION PROCESS:

- Patients enter the hospital, approach the reception and fill the "initial registration form" which are in two languages which is Telugu and English. They submit the form to the executives at the reception desk and they feed it in their computer system.
- They get a UHID number which is valid per person for lifetime.
- The person fills the name of the doctor or the diagnostic procedure according to which the doctors name is suggested to the patient in the initial assessment form

- The patient gets a OP Registration slip for which he pays the money at the billing counter and proceeds to the doctor accordingly.
  There are several OPD'S on ground floor, second floor and fifth floor respectively in the hospital with maximum public at the ground floor. Specific Secretaries are assigned to a bunch of doctors which have a duty of assigning appointments to the patients according to the availability of the doctors and guiding the patients about the different medications which are prescribed by the doctors.

MAJOR DEPARTMENTS AT GLOBAL HOSPITALS LAKDIKAPUL AND THEIR RESPECTIVE DOCTORS:

1) Department of Anaesthesiology:
2) Department of Bariatric Surgery: Dr Laxmi .K
3) Department of Cardiology: Dr Sai Sudhakar, DrPawan, Dr Das
4) Department of Cardiothoracic and Vascular Surgery: Dr Dharma Rakshak
5) Department of Emergency and Trauma: Dr Kamesh , Dr Anand Joshi
6) Department of ENT: Dr Nalinikant
7) Department of Gynae: Dr. Shanti, Dr Shashikala
8) Department of Interventional Radiology: Dr Shridhar
9) Department of Critical Care : Dr Kamesh and Team
10) Department of Dermatology: Dr Pranith
11) Department of Endocrinology: Dr Laxmi lavanaya
12) Department of General Medicine: Dr Kamesh and Team
13) Department of Heart Transplantation: Dr Rahul Chandola , Dr Tapaswini, Dr SaiSudhakar
14) Department of Liver , Pancreas Diseases and Transplant: Dr Vijay Kumar Bada, , Dr Balbir Singh , Dr Venu Gopal
15) Department of Nephrology and Kidney Transplant : Dr Sridhar, Dr Rama, Dr Malakondiaha
16) Department of Liver Transplant: Dr Venugopal, Dr Balbir Signh , Dr Manoj, Dr Dharmesh
17) Department of Lab Medicine: Dr Nagraj
18) Department of Medical Gastroenterology: Dr Kiran Peddi and team
19) Department of Oncology: Dr Ravi Kumar
20) Department of Multi Organ Transplant : Dr Sridhar
21) Department of Neurology : Dr Gopal Paudwal
22) Department of NeuroSurgery: Dr Pravin Ankiti

23) Department of Orthopedics and Joint Replacement: Dr Chandra Bhushan and Team
24) Department of Pulmonary Medicine: Dr Tapaswi Krishna
25) Department of Transfusion : Dr Surekha
26) Department of Urology: Dr Malakondiaha
27) Department of Hepatology: Dr Dharmesh Kapoor
28) Department of Plastic Surgery: Dr Jitendra

B. Labs at Global Hospital:

The Labs are located in the building which is opposite to the hospital building. Global Hospital Labs are accreditated by NABL. There are 5 main Departments in the Lab Building which are :

1) **Department of Clinical Biochemistry**: Headed by Dr Pradeep Naik
2) **Department of Hematology and Clinical Pathology**: Headed by Nagraj
3) **Department of Histopathology and Cytopathology** : Headed by Dr Mahendra
4) **Department of Microbiology and Serology**: Headed by Dr Ranganathan
5) **Department of Transplant Biology and Immunology**: Headed by Dr Laxmi Kiran
   All the procedures are done according to NABL standards with all the precautions and sterility is strictly maintained in the labs.

Process Flow

1) Blood is collected at the sample collection room in the cellar area of the hospital building according to UHID number for OP patients. Nurse takes the blood sample for IP patients and sends them through the runner boy.
2) The runner boy takes all the samples for processing in the Lab Building every 45 mins.
3) After processing of the samples the reports come within 4-5 hrs at the "Report Collection Counter " in the hospital Building.

- **Transport Department:**

Global Hospitals has 3 Ambulances with all important emergency equipments like defiblerator, , Portable Ventilator, Oxygen Pump, Critical Care Medicines, Oxygen Cylinders, Stretchers etc.

- **Security:**

Global hospitals has an outsourced security manpower available from Kanchella.

C. Radiology Department

Includes Digital X-Ray, CT Scan, Ultrasound and Fluoroscopy.

X-Ray

There are 2 X-ray fixed machines and 3 portable X-ray machines.

Manpower- 6 technicians

Each shift (2 technician)

TLD Badges- Thermo luminescence dosimeter

Issued to the staff who gets exposure to X-Rays.

Once in 3 months it goes to the lab for checking the exposure limit.

Liscensing- AERB liscense mandatory (valid upto 5 years)

X-Ray Cassettes- 3 sizes available:

- 17*14 inches
- 12*10 inches
- 10*8 inches

One cassette can have 1000 exposures

- Through PACS image is transferred into the system.

CT Scan

64 slices CT is being used by global hospital. Required temperature is 15-21degree C, Humidity 30-60%

Manpower – 4 Radiologist

4 technician (Bsc. MlT , DMIT)

Procedures- CT Angiogram

- Head and neck
- Pulmonary
- Abdominal
- Coronary
- Peripheral vascular

Routine CT scan

- CT brain ,PNS, Orbits, Neck
- CT chest & HRCT chest
- CT abdomen
- CT axial/ appendicular skeleton

3 D CT Face and Joint

Virtual Colonoscopy & Broncos copy

brain, CT abdomen ,CT chest with contrast , Trifusic liver

For both CT and X-Ray, lead screen and lead apron is used by the technicians for shielding.

Ultrasound

There are 2 Ultrasound machines in the in Radiology Department.

It works on the principle of peizo electric effect.

PNDT ACT 1994, rules 1996

Manpower- 3 nurses(shiftes)

8:00-4:30

9:00-5:30

12:00-8:30

PROCEDURES- liver biopsy

Renal biopsy

Pig tail insertion

Malecot insertion

PROBES- 3 types

- Convex- whole abdomen
- Linear- deeper areas
- TVS- trans vaginal scan

FLUROSCOPY- 800 MA

Types of procedure:

- Barium swallow(Given Orally)- oesophagus -1glass water diluated with barium given to patient.
- IVP barium- barium enema done through colon / rectum (barium not diluted with water).
- Barium follow-(orally)-done through stomach ,small intestine -2 glasses of barium given to the patient diluted with water

STAFFING:

1 HOD

4 Seniour consultant

6 Associates consultant

5 Technician

1 housekeeping

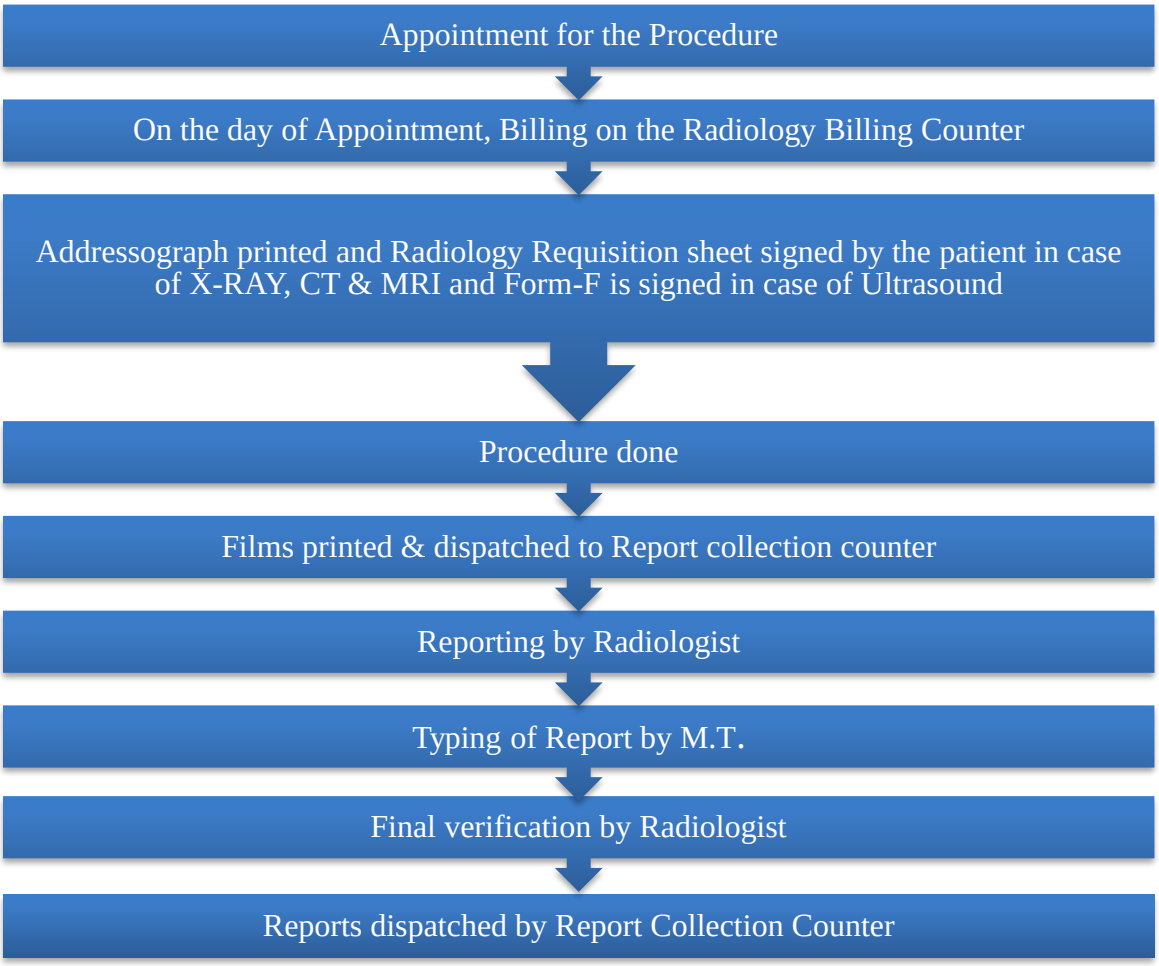

Figure 2.12.1: Process Flow in Radiology

Non- invasive Cardiology:

Procedure done:

1. ECG –Electro cardio gram
2. TMT –Tread mill Test
3. 2-D ECHO –Echocardiogram
4. DSE- Dobutamine stree test

5. TEE-Transoesophageal Echo
6. HOLTER
7. Contrast Echo

Consent form require for TMT ,TEE ,DSE

TMT protocol

- Bruce protocol <50 yr
- Modified bruce protocol70< to>60
- Naughton
- Bully
- Cornell ramprill protocol

Procedure in TMT:

1. Check the age of patient
2. Previous history for cardiac procedure
3. Any abnormality
4. Check B.P
5. Concent take and explain procedure
6. Electrode put on the patient
7. E.C.G record at 3 mins interval

ECHO indication:

- Cardiac arrhythmias and heart disease
- Chest pain in evaluation
- Syncope
- Giddiness
- Sweating

Dobutamine Stress Test –

1-2 hour procedure (<100 kg weight) every 3 min 50 ml syringe (45 ml saline +5 ml dobutamine).

Process of DST

I. Baseline
II. Low lax
III. Peak lax
IV. Recovery

Target HR is (220-age) *85%

CHECK –UPS

Basic heart package

Special heart package

Comprehensive heart package- ECG, TMT

Senior citizen package – ECG, 2D ECHO

Executive citizen policy – ECG, 2D ECHO

Master package - only ECG

D. OPERATION THEATER:

Operation Theatre Complex in Global Hospital is located on 1st floor with the restricted area for outside visitors to minimize the traffic and to maintain the sterility. Nobody is allowed inside the Complex without the Management's or Doctor's permission.

OT Complex is divided into different areas:

1. Recovery Room
2. CT(ICU)
3. Female Doctor/Technician changing room
4. Changing room for Male Doctor /Technicians
5. OT pharmacy
6. 4 OTs
7. 1 scrub station
8. Sterilization room
9. Dirty utility room
10. OT Store Rooms

1) Recovery Room

There are 5 beds in Recovery. Patients to be operated are shifted from wards to recovery around 15-30 minutes before the surgery. Nursing staff in this unit check the vitals of the patients and check that the medicines have been given to the patients or not. After the surgery is over, the patient is brought to recovery with the objective to monitor the patients post-surgery. Critical patients are directly shifted from OT to ICU for monitoring. Cardiac and Neuro surgery patients are shifted from OT to CT ICU and SICU respectively.

3) Catheterisation Lab

Major procedure taking place within the cath lab are CAG and Percutaneous thrombo coronary angioplasty (PTCA). There are overall approx 24 procedures taking place inside the Cath Lab. Cath Lab is divided into console room, procedure room and store rooms.

4) Operation theatres

There are 4operation theatres in OT Complex. Based on specialties they are classified as follows:

OT2&3: Gastro and urology surgery (urology& infected cases are preferred to be done in OT1)

OT 1: CTVS surgery

OT-4 : liver transplant cases

Equipments in OT:

- Operation TablesAnesthesia machine (1 for each OT).
- Laparoscopy machine
- Microscopes.
- Shadow less ceiling lamps
- Patient warmer, used for long cases or if patient is critical. It maintains the body temperature in the range of 32-42 degree Celsius.
- C-Arm Fluoroscopy Machine
- lead aprons and Thyroid shields used with C-Arm Fluoroscopy.
- Crash Cart in OT

OT has HEPA filters (High efficiency particulate air) and laminar flow is maintained inside the OT. Each OT has uninterrupted Power Supply to support the life saving machines and temperature and humidity monitor to keep track on the required levels in Operation.

5) Scrub stations

one scrub stations are there has three taps, one is to take out 10% Betadiene and the other two are for water supply.

6) Utility room

Utility Room is for-

1) Washing soiled linen with sodium hypochlorite.
2) Washing soiled instruments 3M solution.
3) Collecting Biomedical waste in different bins according to the color coding:
   Puncture Proof container - broken Glass
   Red - Infected Plastics: IV sets, gloves, tubing, catheters,
   Yellow - Anatomical and Pathological waste: cotton gauze, etc. contaminated with blood or other body fluids.
   Black - General waste.

OT pharmacy

OT has its separate pharmacy with the total manpower of 2. OT Pharmacy has been given the list of items needed for each surgeries which ease the process. According to the surgeries pharmacy gets all the required medicines and surgical items ready in a very short period of time. Once the operation is over, the nurse or technician provides the list of instruments and medicines used(consumption sheet), which are then added to the patients bills, rest of the medicines are returned.

- **Manpower in OT**

1. Head of Department(Anesthesia)
2. Anesthetists
3. DNB students
4. Nursing staff (assisting surgeons)
5. Technicians (assisting anesthetists)
6. Housekeeping or cleaning staff

Registers maintained:

1) OT schedule: Prepared by the OT senior manager based on appointments and doctors information.
2) OT tracker: To track the time taken
3) General Log book and overtime log book
4) Implant bill receiving file
5) Daily attendance(nursing)
6) OT ETO(Ethylene Oxide) book
7) CSSD book
8) BMW waste
9) Harmonic Register
10) Equipment compliant Register
11) Lab dispatch Register
12) CSSD set

For OT maintenance:

1) Equipment inventory
2) Drug inventory
3) Consumption register

STERILISATION

Maintaining sterility in PACU:

1) The floor is cleaned 2-3 times daily with sodium hypochlorite.
2) For spillage, spill kit is used having PPS (Personal Protective Equipment). PPS includes goggles, scoop, sodium hypochlorite, shoe cover, mask, apron, etc.
3) Fumigation with Lonzagard every Saturday night. Fumigation takes 30 minutes for the process, after that PACU is closed for the whole night.

Sterilisation in OT-

a. After every surgery cleaning of floor is done by sodium hypochlorite and bags of the bins are changed.
b. Different sets of instruments are there for different surgeries. After the surgery, used instruments are washed with 3M and then after drying them they are wrapped in double sheet and sent to CSSD department for sterilization. TAT for unused instrument is 72 hours. ETO objects are also sent to CSSD department after use. TAT for ETO unused objects are 6months.
c. The Laparoscopic instruments are dipped in Disinfection Soaking Tray containing CIDEX(2% Glutaraldehyde) solution for 20 minutes to sterilize them in case those are needed for the next surgery.
d. Once a week fumigation is done with Bacillocide. Usual timings of fumigation is 45min and performed once in a week OT has been kept closed for a night. One OT is kept operational in case there is an emergency.

E.PHARMACY

There are six pharmacy stations in Global Hospital, Hyderabad

1) Central pharmacy- Noori building
2) OT pharmacy- 1st floor
3) OP pharmacy- Ground floor
4) Cathlab pharmacy- Ground floor
5) IP pharmacy- 3rd floor
6) Liver ICU pharmacy- 2nd floor

There are two types of issues from the central pharmacy:

1) Ward issues
2) Departmental issues

Process flow for indent:

Raise indent to central pharmacy (based on consumption of past year)

↓

Raise purchase indent (from Central pharmacy to purchase department)

↓

Based on purchase indent purchase department raises purchase order

↓

Materials received on same day or 1-2 days to central pharmacy with invoice

↓

Goods received notes (GRN) raised by central pharmacy

↓

HIS updated

↓

Goods available

Manpower:

1) Central pharmacy
- HOD-1
- Pharmacist- 2
- Runner boys- 2

2) OP pharmacy- 2 pharmacist
3) IP pharmacy – 3 pharmacist
4) Cathlab pharmacy- 2 pharmacist
5) Liver ICU- 3 pharmacist

F. FLOORS/ WARDS

The total number of beds is 150 which are distributed in 6 floors.

1) Basement: The basement has 5 wards
   Post cath ward- 9 beds
   Radial lounge- 3 beds
   New general ward- 10 beds
   Female general ward- 10 beds
   Male general ward- 12 beds

2) Ground floor:
   Emergency room - 6 beds

3) First floor:
   Recovery room- 4 beds

Surgical ICU- 6 beds (including 1 isolation bed)
Cardio-Thoracic ICU- 6 beds

4) Second floor:
   Medical ICU- 4 beds
   Cardiac ICU- 6 beds
   Liver ICU- 10 beds

5) Third floor:
   Cubicle A- 6 beds
   Cubicle B – 6 beds (Surgical High Dependency Unit)
   Cubicle C – 6 beds
   Cubicle D – 6 beds (Cardio-Thoracic High Dependency Unit)
   Bone marrow transplant unit- 3 beds
   Single rooms- 9 beds

6) Fourth floor:
   Deluxe sharing – 10 beds
   Deluxe rooms- 9 beds
   Super deluxe- 6 beds

G. Dialysis unit

Dialysis unit has 8 dialysis machines . Dialysis takes 3-4 hrs. to complete the process. So the appointments given to the patients are in 3 shifts as mentioned under:

- Morning 6-10A.M
- Afternoon 11-2 PM
- Evening 2-6 PM

Manpower:

- 1 Incharge
- 2 staff nurse
- 6 technicians
- 1 housekeeping personnel

TYPES OF DIALYSIS

Acute – 4 hours

Regular -4 hours

SLED -6-8 hours

3 machines for (+ve) cases

5 machines for (-ve) cases

R.O plant- we have our own plant, wwith the capacity of 1500 lt/hr .

150 – 180 lt for 1 dialysis – 4 hr

Scope of services :

- Kidney transplant
- Acute kidney injury
- All type of kidney diseases
- Snake bite cases
- ABO incompatibility transplant
- Renal biopsy
- CRRT
- All types of renal procedure

Process flow in dialysis department:

Patient registration

↓

Patient consultation with doctor

↓

Investigation

↓

Concent forms

↓

Patient come to dialysis , (wt. checked, vitals checked, A-V fistula checked)

Reuse technique:

Blood tubings

- Wash with RO water for 10 mins
- Sodium hypo chlorite dip
- Again wash with R.o water
- Put in formaline for 10-15 mins
- Then again wash with R.O water

DIALYSER

- Wash with R.o water for 10 mins
- Remove blood clots with H2O2 for 10 mins
- Then again wash with R.o water
- Put in formalin for 10 -15 mins & wash with R.O Water
- AERB licensing is mandatory- valid till 5 years

H. EMERGENCY:

It is 24 hour functional & is 6 bedded

Different Areas in Emergency:

- Patient's area (6 beds)
- Store room
- Utility room

Scope of emergency

i. ER provides a comprehensive & uniform emergency service/ care to patient (functional 24*7).

ii. All patients are assessed & triaged by a qualified & experienced medical & paramedical staff & provided appropriate level of care in ER department.

iii. The ER department provides medical evaluation & treatment (including rapid resuscitation & stabilization) .Patients receive medical referral / transfer (including critically ill patients & or those are not in scope of services of hospital)

iv. Emergency care services provided include-

1. Stabilization of life threatening conditions.
2. Life saving procedures.
3. Immediate treatment of medical & surgical emergencies.
4. Emergency treatment for minor injury or illness.

AMBULANCE TEAM:

Ambulance physician

Anesthetist

Transport boy

Emergency technician

2) Admission process flow

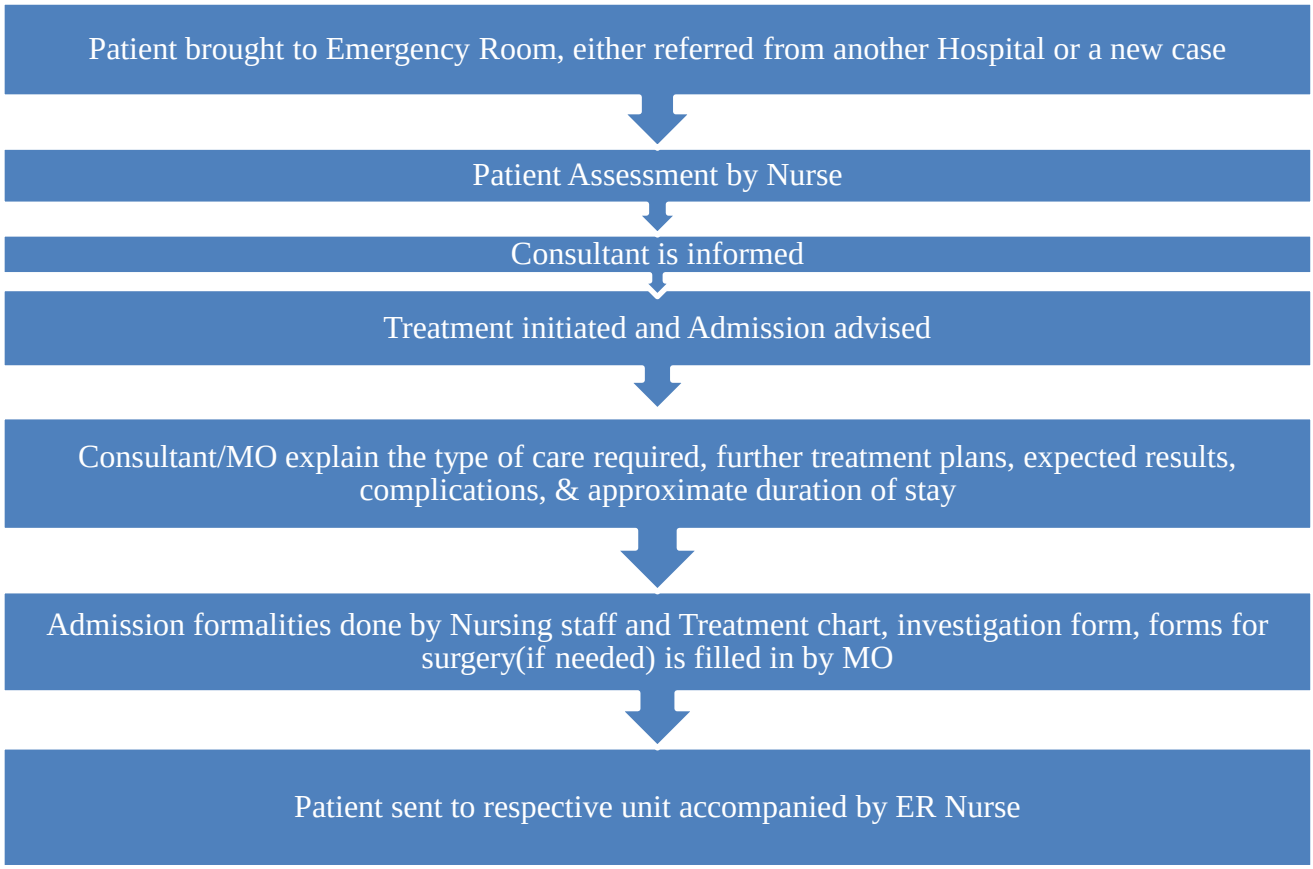

Figure 2.13.2: Process Flow showing admission process in Emergency Dept.

3) MLC cases

It is a case of injury or ailment etc where attending doctor after taking history & doing clinical examination of patient thinks that some investigations by law enforcing agencies are essential so as to fix responsibility regarding the said injury or ailment etc according to law.CMO attending the case, label the case as MLC.

Cases labeled as MLC-

Trauma, burns, electrocution, poisoning, industrial accidents, sexual offences, cases requiring age estimation, criminal abortion, animal or snake bite, cases of coma where cause could not be ascertained, cases of starvation including hunger strike, unclaimed newly born, hanging, strangulation, drowning, suffocation etc, cases brought by police or sent by court for medical examination, BID, where death certification due to disease or natural cause is not possible being not apparent, result of medical malpractices.

4) Process Flow in Triage

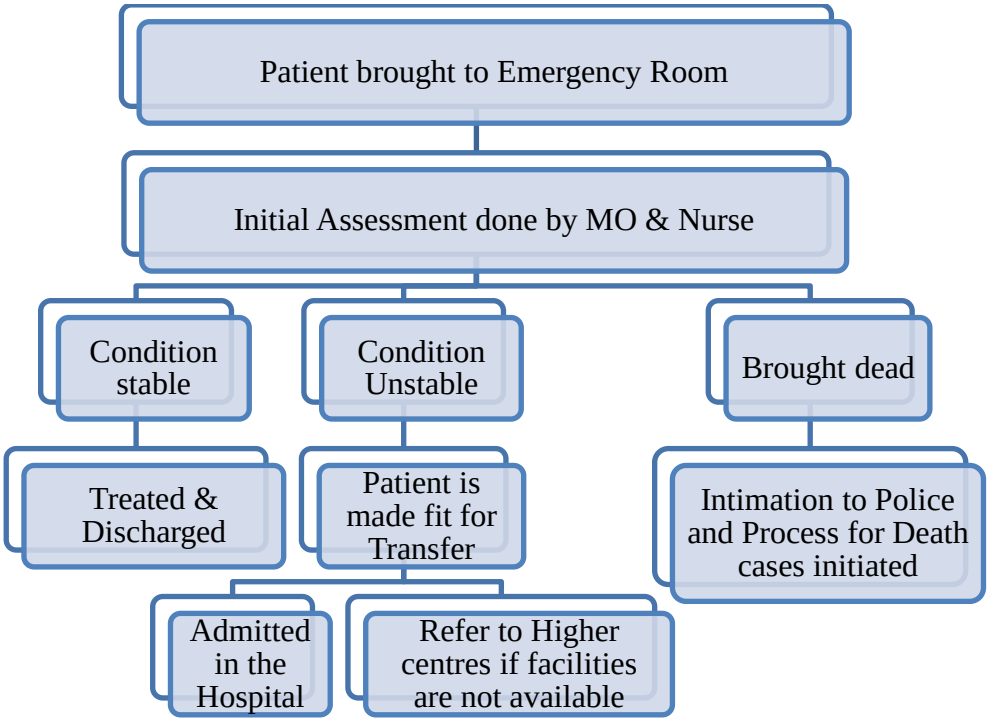

Figure 2.13.3: Process Flow in Triage

5) Important medications used in Emergency Department

<u>High alert medications</u>

These are defined as those which could cause an immediate life threatening condition for the patient if an error in administration occurs.

<u>Narcotic drugs & psychotropic substances (NDPS)</u>

These are drugs which required special storage & issue to prevent misuse, pilferage etc e.g. fentanyl, morphine, pethidine, sufentanyl (also known as Schedule 2 drugs).

Each person independently compares the label & product contents in hand versus the written order & EMAR (if it is the first dose) or label. Double check of medications prior to administration by 2 registered nurses after reading the label is mandatory.

Hospital has made some policies regarding the use of Narcotic Drugs

General guidelines for the Medicines:

- High alert medications dispensed, & administered only on prescription by credentialed personnel / OT/ ICU/ ER in charge doctors to critical care & special care areas
- Double check of Medications prior to Administration by 2 Registered Nurses by reading aloud:
  i) Right medication, Right dose rate, including double check of any calculation & verification of pump settings.
  ii) Right route , including line reconciliation., Right frequency, Right patient.
- High alert medications details will be recorded in Medication Administration Record.
- Storage as per manufacturer packaging instruction.
- Narcotics must be stored under double lock & key.
- In case of expiry/ breakage, excise inspector will be informed accordingly.

Warning labels for all cytotoxic drug containers, as well as shelves

Equipments available-

- Oxygen cylinder
- ECG Machine
- 1 portable ventilator
- Monitors
- Crash cart
- Echo machine
- Defibrillator
- Infusion pumps

Staffing- nurses , head nurse, housekeeping, 2 E/R Doctors

3 Ambulance:

1 small

2 big ambulance

Inside of ambulance- centralized AC to avoid dust

2 oxygen cylinder- 1 running , 1 spare

1 defibrillator

Portable ventilator

Suction- automatic, manual

2 ambulance kits

I:HOUSEKEEPING DEPARTMENT

Outsourced department to Kancherla Medical Services with annual contract.

LOCATION: 4th Floor

Functions of housekeeping department:

- Cleaning, dusting, mopping, dustbin clearance
- Linen changing
- Provision of bedpans, urinals
- Wheelchair mobilization
- Biomedical waste segregation
- Fumigation and disinfection
- Assisting in nursing services

Staff:
Assistant manager-1
Supervisors-6
Store Supervisor-1
Ayas and wardboys-63

Shifts:
A: 7AM-2PM
B: 1PM-8PM
C: 8PM-8AM

J:FOOD AND BEVERAGE DEPARTMENT

Outsourced department to Kancherla Medical Services

Location: Basement

Services: 6am-10pm

Staff:

Dietician
Assistant Manager-1
Senior executives-1
Billing executives-2
Accounts assistant-1
Purchase assistant-1
Kitchen:
Master-1
Cooks-2
Assistant Cooks-2
Others:5
Stewards:13
Utility:13

Process:
Admission of patient→Nutritional assessment→ Dietician orders→ order taker (F&B) →Steward- order prepared with help→ served to patient
Benchmark-15-20 minutes.

Quality indicators:

Microbial analysis
Swab of surface area
Swab of hands of F&B Staff

K:CRITICAL CARE

Location:

1. Surgical ICU: 6 bedded, 1st Floor
2. Cardiothoracic ICU: 6 bedded, 1st Floor
3. Liver ICU: 10 bedded, 2nd Floor
4. Cardiac ICU: 6 bedded, 2nd Floor
5. Medical ICU: 4 bedded, 2nd Floor

Nurse:Bed ratio- 1:1

Staff:
Intensivists- Senior and Junior
Pharmacist in Liver ICU

Nurses
Ward boys
Physiotherapist
Security

Shifts:
8am-2pm
2pm-8pm
8am-8pm

Process flow:
Emergency/ Operation Theatre/ Ward→ ICU→ Initial assessment→ Doctors initial assessment→ Samples taken for investigations→ Medical and financial counselling→ Consents→ Medical and critical care support→hourly monitoring of vitals→ Progress notes updation/Attendar education→Discharge from ICU to ward/ LAMA.

Quality indicators:

- Bed sores
- Return to ICU within 48 hours
- Re-intubation within 48 hours
- Medication errors
- Adverse drug reactions
- Falls
- Sentinal events
- Accidental removal of catheters

Dissertation Topic

Rationalizing of Operation Theatre Pharmacy Inventory of Global Hospital, Lakdi ka Pul, Hyderabad

ABSTRACT

A key decision in hospital pharmacy is how much inventory to keep on hand. Inventory is usually a pharmacy's largest asset. Once inventory levels are established, they become an important input to the financial aspect of any business, as they are key to driving cash flow and profitability.

Too much inventory translates to too little cash and, oftentimes, to less profitability. However, too little inventory can mean lost sales as patients go to another hospital to fill their prescriptions. As a pharmacy owner, you have many facets to consider when managing your inventory, and certain best practices can drastically improve your bottom line.

ACKNOWLEDGEMENT

"Successful passage & outcome of every work comes with dedication, determination & team work. All these turn futile in the absence of visionary guidance."

I would like to extend my sincere thanks to the staff of Global Hospital, L.K.P , Hyderabad for extending its cooperation & never ending help in the process of understanding various dimensions of an organization. It's highly appreciated for the time spent by them for participating in discussions & lending valuable inputs.

I feel deeply privileged in expressing our deep sense of gratitude to Mrs. Anitha , H.O.D.- Central Pharmacy, Global Hospital, L.K.P, Hyderabad for their expert guidance & encouragement which immensely helped in the process of making this report. Without their support, exploring such a vast organization could not have been possible.

I am extremely thankful & grateful to Mr. A.K. Agarwal, Professor & Dean, IIHMR New Delhi, who always spared time from his busy schedule to enlighten with valuable suggestions & guidance.

Lastly, a vote of thanks to everyone who indirectly helped out to make this report reach the final stage of completion.

Dr Kopal Mehrotra

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List of Abbreviations

Serial No.	Abbreviations	
01.	LKP	Lakdi ka pul
02.	CMD	Chairman & Managing Director
03.	CEO	Chief Operating Officer
04.	HMS	Hospital Management System
05.	IPR	Initial Patient Record
06.	MIS	Management Information System
07.	OPD	Out Patient Department
08.	OT	Operation Theater
09.	F/O Executive	Patient Relation Executive
10.	PRO	Patient Relation Officer
11.	UHID	Unique Hospital Identification
12.	BD	Business Development
13.	HAI	Hospital Acquired Infection
14.	Q.C.	Quality Circle
15.	IPD	In-Patient Department
16.	IP	International Patient
17.	BMW	Bio-Medical Waste

18.	**AGM**	**Associate General Manager**
19.	**N.S.**	**Nursing Superintendent**
20.	**F&B**	**Food & Beverage Department**
21.	**H&K**	**House-Keeping**
22.	**B.B.**	**Blood Bank**
23.	**C.G.H.S.**	**Central Government Health Scheme**
24.	**E.S.I.**	**Employee State Insurance**
25.	**TPA**	**Third Party Associate**
26.	**LAMA**	**Leave Against Medical Advice**
27.	**DAMA**	**Discharge Against Medical Advice**
28.	**MICU**	**Medical Intensive Care Unit**
29.	**SICU**	**Surgical Intensive Care Unit**
30.	**NICU**	**Neuro Intensive Care Unit**
31.	**RICU**	**Respiratory Intensive Care Unit**
32.	**HDICU**	**High Dependency Intensive Care Unit**
33.	**CT-ICU**	**Cardiac Thoriac Intensive Care Unit**
34.	**KT-ICU**	**Kidney Transplant Intensive Care Unit**
35.	**DOA**	**Date of Admission**
36.	**DOD**	**Date of Discharge**
37.	**BI-PAP**	**Bi-level Positive Air Pressure**

38.	**C-PAP**	**Continuous Positive Air Pressure**
39.	**HVAC**	**Heating Ventilation Air Control**
40.	**DH**	**Discharged Home**
41.	**BS**	**Bed-Sore acquired in ICU**
42.	**PNDT ACT**	**Pre-Natal Diagnostic Technique Act 1996**
43.	**C-A-B**	**Compression Airway Breathing**
44.	**CPR**	**Cardiac Pulmonary Resuscitation**
45.	**USG**	**Ultrasound Sono-graphy**
46.	**E.C.G**	**Electro-Cardiogram**
47.	**E.N.M.G**	**Electromyography**

INTRODUCTION

Understanding inventory

Inventory decisions involve a delicate balance between three classes of costs: ordering costs, holding costs (also known as carrying costs) and shortage costs. Ordering costs are the costs associated with placing an order, receiving and verifying the order and putting away the stock. These costs will largely be composed of personnel time. Holding costs are the costs associated with holding an item in inventory. These costs will be the opportunity costs of having your cash sit on a shelf instead of in your bank, where it could be paying down debt, paying bills or paying suppliers faster to receive better discounts. Shortage costs are the costs of temporary or lost sales due to not having the inventory on hand when the prescription needs to be filled. This cost is the hardest to quantify, but often the easiest to see.

You can break down inventory into two broad classes: base stock and safety stock. Base stock is the portion of inventory that is replenished after it's sold to customers. Think of base stock as the foundation of your pharmacy from which prescriptions are filled day in and day out. Safety stock is the portion of inventory that is held to protect against uncertainty. It's that extra bottle that you keep "just in case." The rule of thumb in base stock and safety stock is simple: Keep an adequate supply of base stock and as little safety stock as possible.

Types of inventory systems

The success of any business depends on the owner's ability to maintain adequate records of items sold, items received and items in inventory. Records provided by an inventory control system should call attention to the need for reorder when necessary or to eliminate "dead wood" inventory when needed.

Inventories are typically controlled and supervised by three methods: perpetual inventory control, physical inventory, and "looking it over." The perpetual method is the most frequently used method in our computerized world. In this system, complete data records are kept on each item of merchandise and additions or subtractions are made with each transaction through the pharmacy operating system. There is an inventory balance plus a receipt of product, minus the actual sale of product to reflect the quantity on hand. This is done largely automatically.

Physical inventories, on the other hand, are laborious endeavors that are typically done annually. They are the "check" that you need to verify the accuracy of the perpetual inventory on a regular basis.

The "looking it over" method is the old school method still employed by some pharmacy owners. It is the preferred method for those who like to think they know their patients, but while they may know their patients, they aren't employing inventory best practices. With this method errors are bound to occur, as are overstock situations. This method also makes it difficult to pinpoint accurate inventory levels, which typically means the pharmacy is seriously overstocked as most operators err on the side of safety stock.

Overview of Global Hospital

Global Hospitals opened its doors to the city of Hyderabad and the people of India in the year 1999 when Dr. K. Ravindranath, Chairman & Managing Director, Global Hospitals Group, founded the first 50-bed facility.

Corresponding to the growing healthcare needs, the hospital added an additional 100 beds and advanced facilities for specialized healthcare services ranging from diagnosis to multi-organ transplantations, from simple procedures to complex surgeries in the year 2002.

Over the next 15-years the Global Hospitals Group has transformed into one of India's fastest growing chains of Multi Super Specialty Tertiary Care Hospitals offering a comprehensive healthcare network providing quality care, cutting-edge research and advanced education to care givers throughout the country. With India's largest multi-organ transplant center for liver, pancreas, kidney, heart and lung, and world class hospitals, state-of-the art technology and the best team of experts in a host of specialties, Global Hospitals has been continuously giving new lease of life to many battling with end-stage diseases.

Mission & Vision

"With a vision to be a world-class healthcare provider turning distant possibilities into realities, Global Hospitals utilizes a strong combination of clinical expertise, advanced technology, world-class infrastructure and facilities are to deliver high quality medical services of international standards. Having collaborations with several leading Indian and internationally reputed academic institutions, the Group offers a wide array of academic programmes for both medical and non-medical professionals. Recognized by the government bodies for research, the Group has made significant strides in advanced medical research programmes including Stem Cell and Regenerative Medicine Programmes."

Global Hospital, Lakdi ka Pul, Hyderabad

The Global Hospitals Group is one of India's fast growing chains of tertiary care multi-super specialty and multi-organ transplant Hospitals. Offering exceptional healthcare services to patients in India and across the globe we hold a dominant presence in South India in the healthcare domain.

The Lakdi-ka-pul location of the Hospital in Hyderabad, Telangana is the first outlet of the Global Hospitals Group with 200-bed capacity. Global Hospitals, Lakdi-ka-pul is a state-of-the-art tertiary care multi-super specialty and multi-organ transplant facility located at in the heart of the city and is brings to the people of Hyderabad, neighboring states and international patients the clinical excellence and legacy of the Global Hospitals Group

Rewriting medical records is a way of life at Global Hospitals and is demonstrated in the dedication & commitment to deliver exceptional patient care and patient safety with the highest standards of clinical practices, clinical expertise & excellence from the foremost clinicians of the world with the support of the latest and state-of-the-art technology.

Global Hospitals has become the destination of choice for all discerning patients from within the country and abroad. Some of the salient features of the institution include:

- World-class care at affordable cost
- State-of the-art equipment and technologies
- Multi-disciplinary teamwork
- Results on par with the best in the West
- Benchmarks in quality, safety and innovation
- Exceeds patient expectations by going the extra mile in service

Clinical Services Provided at Global Hospital, Lakdi ka Pul

Anesthesiology

Arthroscopy & Sports Medicine

Bariatric Surgery

Cardiology

Cardiothoracic & Vascular Surgery

Critical Care

Dentistry

Dermatology

Emergency Medicine & Trauma

Endocrinology

ENT

General Medicine

Gynecology

Heart Transplantation

Hepatology

HPB & Liver Surgery

Interventional Radiology

Kidney Transplantation

Laboratory Medicine

Medical Gastroenterology

Medical Oncology

Minimal Invasive Surgery

Multi- Organ Transplantation

Nephrology

Neurology

Neurosurgery

Orthopedics & Joint Replacement

Plastic Surgery

Pulmonology

Radiology & Imaging

Spinal Surgery

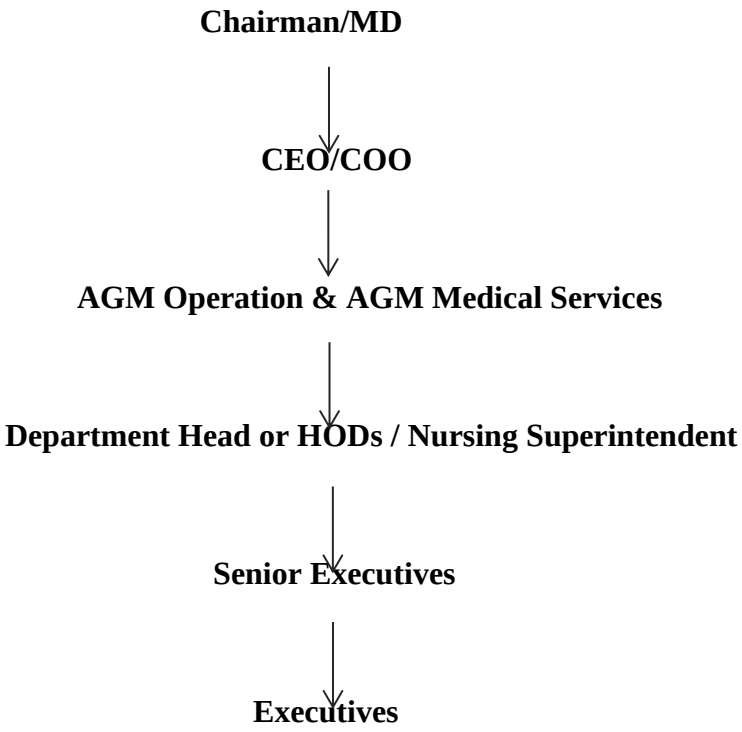
Surgical Gastroenterology

Transfusion Medicine

Urology

Vascular & Endovascular Surgery

Organization Hierarchy



Global Hospitals Group Milestones

- India’s First Successful Single Lung Transplant
- India’s First successful Split and Auxiliary liver transplant
- India’s First Combined Heart and Kidney Transplant
- First Hospital in South Asia to perform nucleus replacement in Spine
- First Hospital in India to perform Swap Liver transplant for adults
- First Hospital to be recognized by the Govt. of India for Research & Development
- First Hospital to perform Heart Transplant in Andhra Pradesh
- First Hospital to perform Liver Transplant in Andhra Pradesh
- First Hospital to perform Bone Marrow Transplant in Andhra Pradesh
- India’s Largest Multi-Organ Transplant Centre

Why Global Hospitals?

Multi-super specialty Hospital with highly experienced doctors

State of the art Infrastructure with most advanced technology

NABH accredited Hospital & Blood Bank

NABL accredited Laboratory Services

INTRODUCTION

Inventory control is important in any commercial environment, but even more so when it comes to maintaining inventory in a pharmaceutical setting because public health is involved. Anyone with pharmacy technician training can appreciate the importance of having enough medical stock in both retail and hospital pharmacies at all times in order to be able to successfully fill the prescriptions that customers may need immediately. Successfully dispensing prescriptions may seem like a simple task, but if you've ever observed the operation of a hospital or community pharmacy, you'll understand the need for an efficient inventory control structure.

REVIEW OF LITERATURE

Pharmacy inventory management is a complex but critical process within the healthcare delivery system. Without adequate pharmacy inventory management practices, hospitals run the risk of not being able to provide patients with the most appropriate medication when it is most needed. Additionally, pharmacies' dispensing patterns and drug selection choices may have a direct effect on the affordability of care. Utilizing drugs that are non-contracted or not on the formulary may be more costly to the patient or may result in a lower than expected reimbursement. In addition to patient safety and financial considerations, stringent regulatory requirements pertaining to drug traceability, inventory reporting and inventory management elevate the importance of maintaining effective control over drug inventories in today's everexpanding healthcare compliance environment. Pharmacies can control a number of factors within the pharmacy inventory management and pharmacy revenue cycles that can support better outcomes for patients and enhance the bottom line for facilities. This whitepaper provides perspectives on leading practices and internal controls pertaining to: procurement, charge description master maintenance, tracking systems, traceability, storage, disposal and segregation of duties. These control mechanisms can provide a basis for consistent quality, better financial performance and improved regulatory compliance when implemented appropriately and adhered to during day-to-day operations. Drug procurement Drug costs make up an increasing percentage of healthcare expenses. Proper management of drug procurement is essential for addressing cost and promoting patient safety and quality care. To ensure pharmacy procurement activities are operating appropriately, management should develop formal procurement procedures to be followed throughout the organization. These procedures should be reviewed regularly and updated as necessary to reflect changes in regulations and operations. They should be designed to promote safety and efficacy for drug purchases, and should include cost containment techniques, such as: • Defining the process for formulary inclusion; • Utilizing a limited drug list or the formulary defining each drug to be purchased; • Practicing competitive bidding to secure optimal drug pricing; • Participating in the 340B Drug Pricing Program when eligible; • Taking advantage of greater purchasing power by teaming with industry partners in group purchasing (Note: certain restrictions may apply for 340B Program participants) ; • Limiting the use of local contracts negotiated outside of the group purchasing organizations; and • Defining criteria for selecting drug product manufacturers and suppliers. For ordering controlled substances, hospital pharmacies in the US must register with and abide by the requirements of the US Drug Enforcement Administration (DEA). The DEA categorizes controlled substances into five schedules. Schedule II includes controlled substances that are currently used for medical treatment and are considered to have a high potential for abuse, such as oxycodone, hydrocodone, hydromorphine, fentanyl, etc. Hospital pharmacies must order schedule I and II

controlled substances on an official paper DEA 222 order form or electronically using DEA's Controlled Substances Ordering System The form must be executed or digitally signed by a DEA registrant. 2 Data analytics and benchmarking can be used by hospital pharmacy management to evaluate medication costs relative to industry standards and to identify drugs that cost the pharmacy more than the expected reimbursement received for their use. Data analytics can also be used to identify drugs with a missing or invalid National Drug Code (NDC). The National Drug Code Directory is available online at the U.S. Food and Drug Administration's (FDA) website. Incorrect NDC data can cause inaccurate billing and may negatively impact patient safety. Some facilities use software to automate the NDC update process in order to keep NDC data current and reduce errors. This automation can be particularly beneficial during drug shortages when suppliers and products may change frequently. In addition to cost management techniques and strong controls around drug procurement, hospital pharmacy management must properly monitor the processing and payment of drug vendor invoices to ensure that products ordered were correctly received and invoiced. Sufficient supporting documentation should be maintained for pharmacy purchases evidencing drugs received match the type and quantity reflected on the vendor invoice. Data analytics can also be used to compare the price on the vendor invoices to the negotiated or contracted drug purchase price. Finally, for eligible participants, the 340B program may present significant savings opportunities; however, participation is contingent upon a hospital adhering to strict regulatory standards. Participating hospitals should therefore consider implementing strong internal controls including, but not limited to, a formalized compliance program.

Each year, the average health system invests millions of dollars in pharmaceuticals. While hospital pharmacists are expert at evaluating the efficacy of drugs, many haven't looked closely enough at their inventory management processes. In fact, the typical health system pharmacy does not use calculated methods for determining product orders. As a result, hospital pharmacies average a relatively low 10.2 inventory turns per year, lose contract compliance opportunities, and continue costly process inefficiencies.

A disciplined inventory management program applies "buying science" to pharmacy procurement and can make a huge difference in inventory investment, labor conservation and patient safety.

While many hospitals today use robotics to fill prescriptions and sophisticated systems to track and monitor patient care, most still use manual processes to determine what, how often and how much to order. The vast majority of hospital pharmacies still rely on a "want book," using pen and paper to take notes throughout the day on items to be ordered. They double the work by visually inspecting the on-hand inventory of items in the pharmacy, and cap off this process by manually entering their daily order into technology systems provided from their pharmaceutical distributor.

Many pharmacy buyers were trained as pharmacy technicians and in lieu of formal purchasing instruction, rely on their own intuition. A typical hospital pharmacy has more than 2,000 products in its inventory. Relying on visual inspection, memory or experience to decide how much to order leads to costly overstock and stressful buying emergencies. Compounding this problem is the fact that most hospital pharmacies do not have a process for accurately reconciling what is received against what their pharmaceutical distributor bills.

The serious consequences of traditional pharmacy purchasing include:

- lack of inventory control
- missed contract compliance
- excess inventory levels
- frequent stock-outs and costly emergency deliveries
- workflow interruptions and expensive rework
- increased health system labor requirements

Taking control of inventory is much easier than it was a few years ago. The right inventory process redesign includes three components: technology; buyer experience; and change management.

At the core of the program is a discipline that relies on velocity rankings, a term used to illustrate the speed at which a product moves off the shelf. Wholesale channels use inventory classifications of A, B,C, and D items as product velocity metrics. An "A" item can typically represent 10% of the stocked SKUs (stock keeping units) but 60% of sales, while a "D" item can represent 25% of stocked SKUs and only 10% of sales. Each velocity group has its own inventory turn goals. These rankings help focus more of a pharmacy buyer's time on "A" items and less time on slower moving "B" and "C" items.

Ideally, the order process incorporates computer calculated reorder points and reorder quantities for each item, built in to the ordering process, eliminating the need for the want book. The pharmacy can rely on suggested, automatically generated order quantities, contract compliance checks, and other time and cost saving decision-support features. A process like this ensures adequate on-hand inventory while preventing costly overstock.

Thorough manual reconciliation of daily distributor deliveries is burdensome and impractical for most hospitals. With the millions of dollars worth of inventory on their pharmacy shelves, however, hospitals need reassurance that what they receive and what they paid for are the same. Hospitals should take advantage of their distributors' receiving technologies that automate the check-in process and instantly compare what is delivered to what is invoiced.

Hospital pharmacies will realize significant measurable benefits from redesigning their inventory management processes, such as:

Increased inventory turns-The higher the number of inventory turns, the less capital is invested at any given time. Hospital pharmacies should strive for an inventory turn rate of at least 14 turns, and ideally over 16.

Improved contract compliance-Contract items represent a significant area for pharmacy savings for pharmacy-the more compliant with buying group contracts, the higher the savings. Without a disciplined inventory management process, a pharmacy runs the risk of stock-outs that lead to non-contract purchases. Outmoded pharmacy buying methods contributed to an average 40% of hospital pharmacy drug spend invested in non-contract items.

Southwest Washington Medical Center (SWMC), a 442-bed hospital outside of Vancouver, Wash., adopted McKesson's Asset Management program last year, and its pharmacy department experienced savings of 2.5 hours a day in purchasing staff time. In one year, the department increased its inventory turns and realized a cost savings of $170,000. Pharmacy staff say the program has allowed them to identify areas in need of improvement, and to find other opportunities for savings.

Hospital pharmacies can expect new challenges over the next decade, including adopting electronic medication administration record technology, implementing automated prescriber order entry, and coping with continuing clinical labor shortage. Modernized inventory management can help them address these challenges, by optimizing the purchasing and inventory management processes to free up pharmacist time, reduce costs, and increase capital availability for future needs. The result is a more efficient system that can produce significant savings for the hospital while providing pharmacy with more time to focus on patient care activities.

AIM OF THE STUDY

TO RATIONALIZE THE OPERATION THEATRE PHARMACY INVENTORY STOCK OF GLOBAL HOSPITAL ,LAKDI KA PUL, HYDERABAD

OBJECTIVES OF THE STUDY

1) Maintain an optimum stock level of drugs and disposables.

2) Facilitate easy and immediate access to the drugs.

3) Minimize the number of indents place to central pharmacy .

4) To minimize inventory holding days .

5) To minimize revenue block in terms of stock.

6) To minimize expiry date items and render continuous supply .

RESEARCH METHODOLOGY

SAMPLE DESIGN:- Cross sectional and retrospective study.

STUDY AREA :- Global Hospital , Lakdi Ka Pul , Hyderabad.

STUDY POPULATION :- patients operated in the operation theatre of the global hospital.

SAMPLE SIZE :- total population on which the study is conducted (100% sample size)

Jan/feb/march/april =175+205+248+293=821

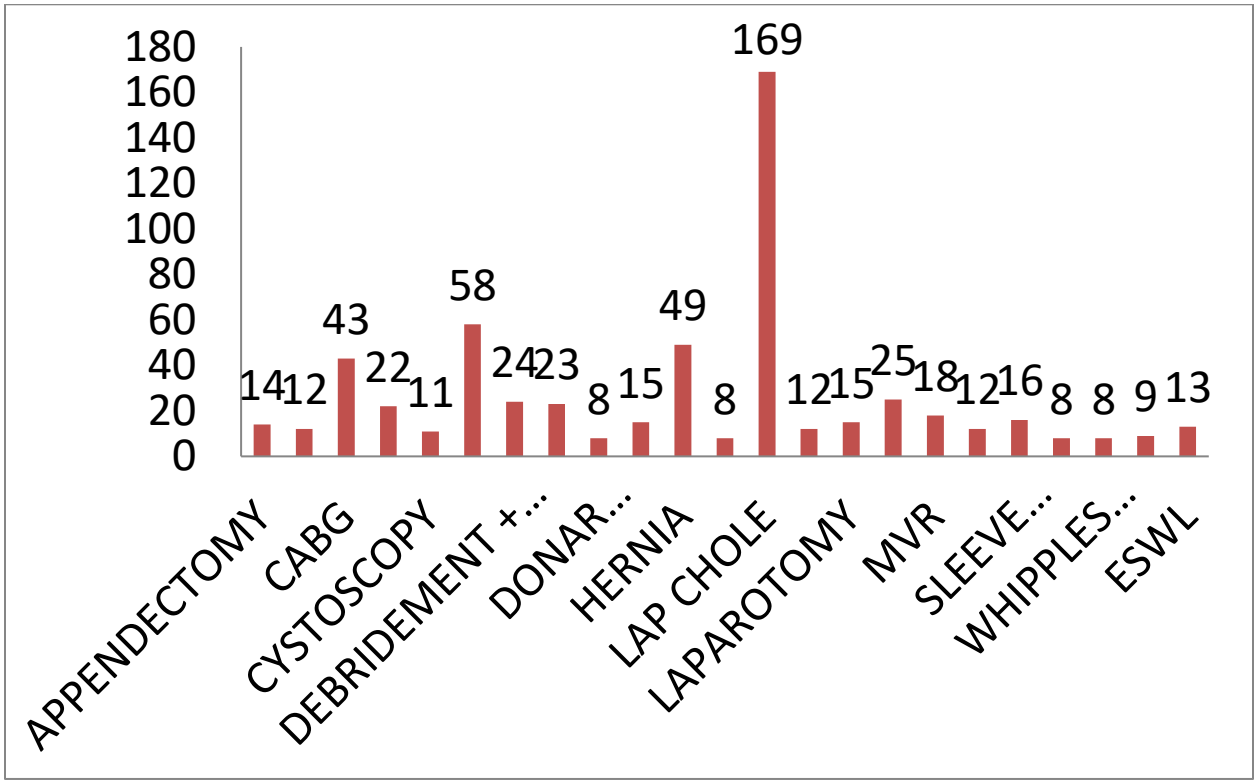
DATA ANALYSIS:- observational (MS EXCEL)

DATA COLLECTED:- primary and secondary data.

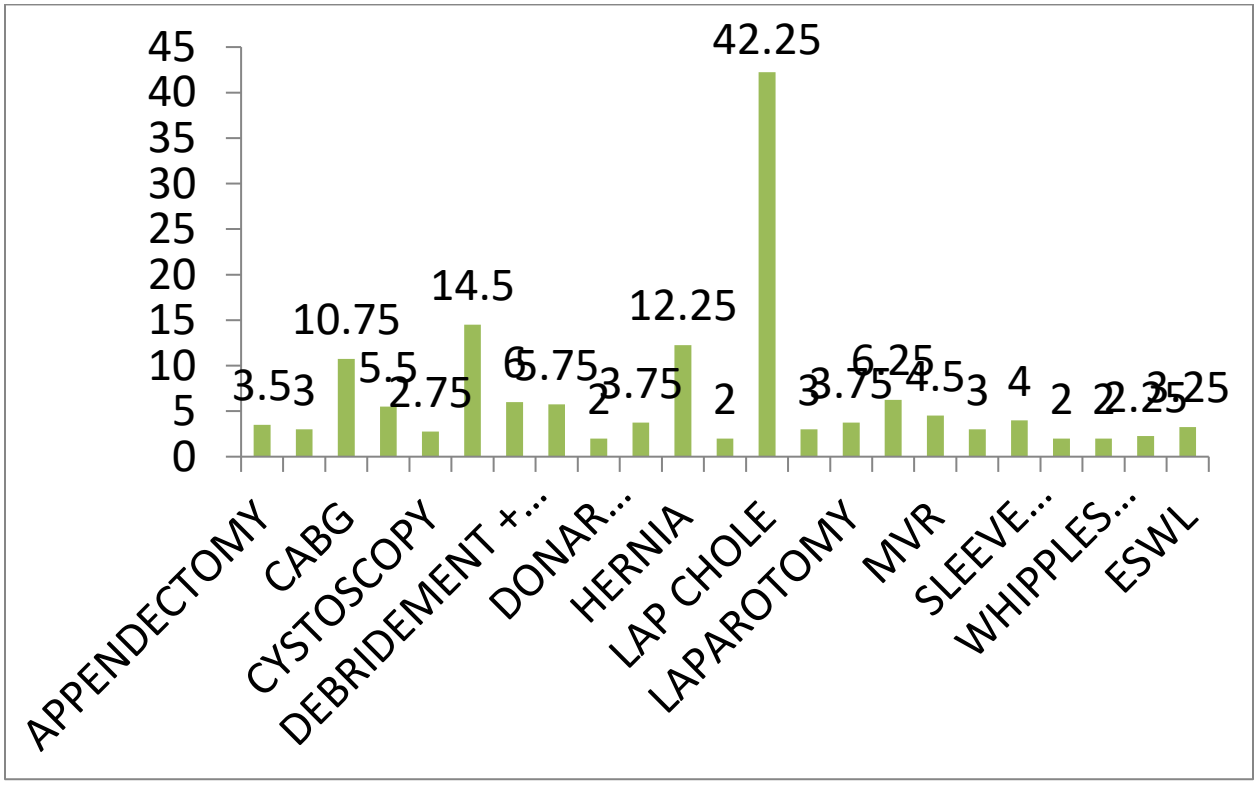
DURATION OF PROJECT :- 22nd feb 16 to 14th may 16

ANALYSIS

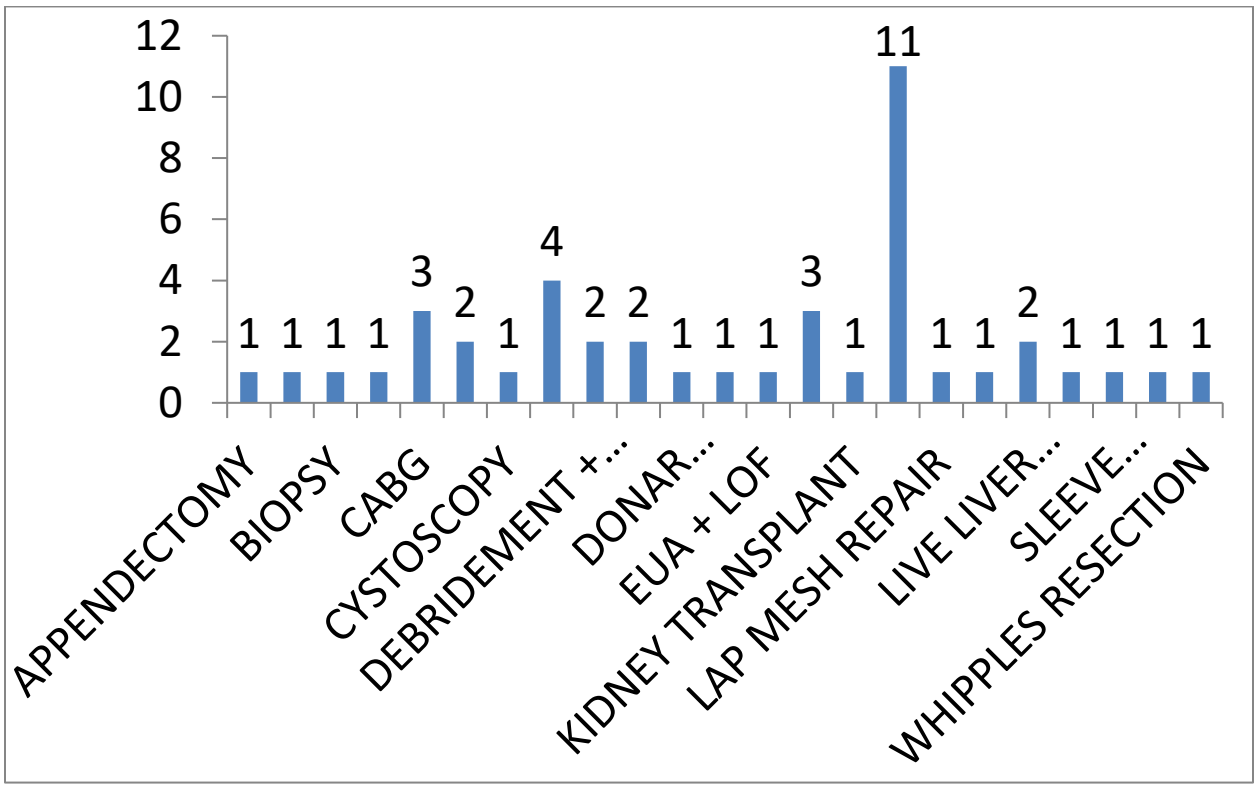
NO. OF CASES IN 4 MONTHS



NO. OF CASES PER MONTH

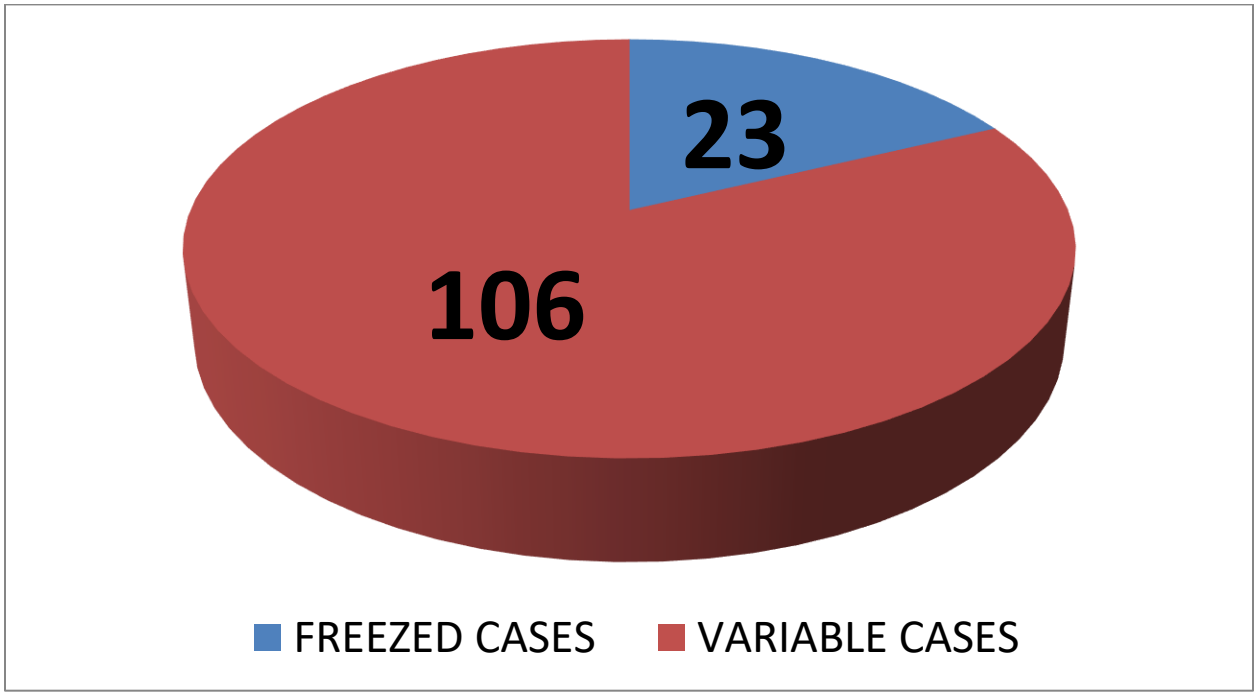


NO. OF CASES PER WEEK



INTERPRETATION

- As we can see altogether 129 different types of surgeries happened at global hospital.
- Out of which 23 were major surgeries occurring more frequently during the period of 4 months.
- 23 surgeries got a score of 0.5 or above , so we will keep pharmacy inventory stock for these surgeries.
- 106 were non frequent surgeries so we will not keep the stock , they will be planned surgeries then only we will keep the stock .
- Indent will be on weekly basis (every Saturday we will indent) for hussle free functioning .



CONCLUSION

4 easy inventory improvements

Even a pharmacy that does an average job of managing its inventory can see drastic changes with just a few improvements to inventory management. Take a look at these ways you can evaluate your operations and make adjustments to improve your return on sales.

Place fewer orders

Many pharmacy owners today still place several small orders throughout the day. They scan their shelves at the end of the day and place a final order before locking up in the evening. However, when you place larger orders fewer times throughout the week, you spend less time preparing orders and putting orders away, which can ultimately save you money. If you place three large orders throughout the week, for example, and only the occasional "must have" base stock order, you can organize a more effective work schedule. With consistent orders, you can plan ahead and place more staff on the days where you will need to put away larger orders and you can cut back staff hours on other days.

Reduce overall inventory

Get rid of excess safety stock, outdated products and items that are on the shelves but rarely or never move. You should return for credit anything that hasn't moved in the last 30 days. Then, increase your safety stock on faster moving products to ensure adequate stock for light order days. This decrease in inventory can increase cash flow and decrease cost of goods sold because you'll be filling the same number of scripts with less inventory. This increased cash flow also means that you can pay your drug supplier faster and earn even more savings on your cost of goods.

Invest in a better inventory system

When you invest in a computer system that has perpetual inventory management capabilities, you'll offset the expense of the new equipment with the savings you'll see in other areas of your business. For example, your payroll expenses will likely decrease because you'll improve your ordering patterns and reduce the hours worked by your staff.

Stop "just in time" ordering

You might think that just in time ordering is the most efficient form of ordering because it can bring cost savings and reduce inventory levels. However, this thinking doesn't take into consideration several critical elements. Just in time ordering only works when you have reliable delivery, reliable supply, and stable, predictable demand.

Meaning, your suppliers will need to have the stock you need at the time you need it with the ability to deliver it to your door. You'll also need to know who is walking in your door and what they are going to need. Then, your supplier has to have it in stock and delivered to you in advance of that person walking through the door. That's a tough combination in retail pharmacy on any given day. If you use just in time ordering, you probably try to combat these problems by keeping a good amount of safety stock on hand, but that defeats the theory of the system. Go with a better inventory solution

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