Summer Training at
Aditya Birla Hospital, Pune
(April 3 to June 2, 2017)

Time and Motion Study on Dialysis Staff at Aditya Birla Memorial Hospital

By
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MBA Hospital & Health Management
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2017

INSTITUTE OF HEALTH
MANAGEMENT RESEARCH
(WHO Collaborating Centre for District Health System Based on Primary Health Care)

IIHMR UNIVERSITY

CERTIFICATE

This is to certify that **NUTAN REBECCA ALFRED** has undergone summer training at **ADITYA BIRLA MEMORIAL HOSPITAL, PUNE from 3rd April 2017 to 2nd June 2017.**

The candidate herself completed the project assigned to her during summer training. Her approach to the project was sincere and proactive. This summer training is in partial fulfillment of the course requirement recommended for the award of MBA in Hospital and Health Management.

I wish her success in all her future endeavors.

Col (Dr.) Ashok Kaushik
Dean (Academic & Student Affair)
The IIHMR University, Jaipur

Dr. Sandesh Kumar Sharma
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ADITYA BIRLA
MEMORIAL HOSPITAL

Ref. No. : ABMH/HR/Internship/235

5th Jun'17

TO WHOMSOEVER IT MAY CONCERN

This is to certify that **Ms. Nutan Rebecca Alfred** has completed his Internship project on **"Drug Distribution System of the Hospital"** in **Pharmacy Department** at Aditya Birla Memorial Hospital, Pune from **4th May 2017 to 2nd June 2017.**

for Aditya Birla Health Services Limited,

5/6/17

Manoj Prabu
Pharmacy Dept.

ADITYA BIRLA HEALTH SERVICES LTD. PUNE 411033

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ACKNOWLEDGEMENT

The satisfaction and euphoria that accompany the successful completion of the project would be incomplete without the mention of the people who made it possible. First of all, I express my sage sense of gratitude and indebtedness to my university mentor Mr. Sandesh Kumar for supporting and guiding me at each and every step of my internship.

Also I would like to thank Ms. Rekha Dubey, CEO, Aditya Birla memorial hospital and Mr. Sandeep Singh, HOD, Patient services for giving me the opportunity to do my internship at Aditya Birla memorial hospital, Pune.

I would like to pay my sincere gratitude Dr. Namita Goyal, deputy manager (patient services) who helped and supported me at every step of this project.

I would also like to extend my sincere and heartfelt thanks to Dr. Tarun Jeloka (senior consultant, nephrology) and the dialysis ward staff for all their cooperation during the study.
To place on record, I owe a debt of gratitude to all my teachers for grooming me and my classmates for the inspiration needed to work with dedication and motivation throughout as an Intern at Aditya Birla Memorial hospital, Pune.

I hope that I can build upon the experience and knowledge that I have gained and make a valuable contribution towards the industry in coming future.

ABOUT THE HOSPITAL

Aditya Birla Memorial Hospital is a multi-speciality tertiary hospital located at Pimpri-Chinchwad, Pune in the western Indian state of Maharashtra. It is Maharashtra's First Joint Commission International **(JCI)** and National Accreditations Board for Hospital **(NABH)** accredited hospital, and also India's First **HACCP and ISO: 22000:2005** certified hospital.

Spread across 16 acres, Aditya Birla Memorial Hospital has 500 Beds, 152 ICU Beds, 13 Operation Theaters and a flat panel Cath Lab. The hospital employs the finest talent in the medical industry as ***full time consultants*** using ultramodern medical technology to provide high quality cost-effective medical services. It lays special emphasis on ***preventive care*** towards which is hosts a complete **Wellness Assessment Center** under one roof. Operating in a paperless and filmless environment, the hospital is committed to maintain the highest standards of healthcare at an affordable cost.

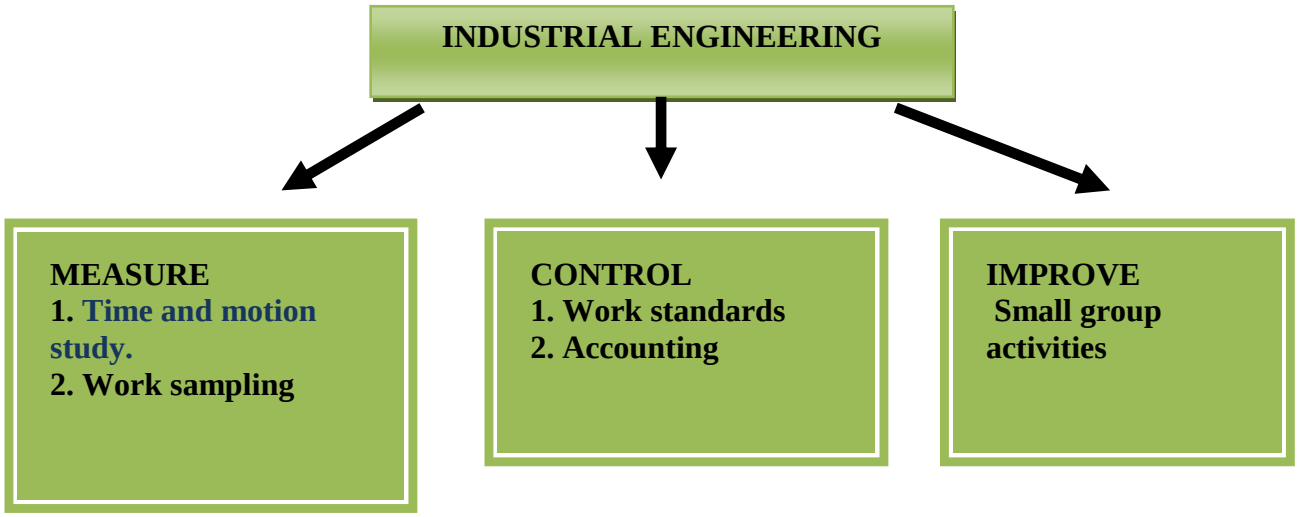
The hospital's sophisticated **Medical Emergency Center** is equipped with 10 beds - 4 red zone, 6 yellow - fortified with most advanced life-saving facilities such as cardiac, trauma, pediatric bays,a special room for infectious diseases, and mini operation theatres within the department to manage all major life saving procedures.

The **Mother& Child unit** is has modern neonatal intensive care and pediatric surgical care facilities. It is equipped with four independent and fully furnished labor suites connected to a dedicated Gynaec operation theatre where patients receive individual pre and post pregnancy care. Its experienced gynecologists are trained to detect cancer in the OPD itself, offering Gyne-Oncology and Urogynecology services for highly specialized care to patients with cancer and urinary problems. The Mother& Child unit also provides Assisted Reproductive Technologies (ART) services, offering In Vitro Fertilization (IVF), Intracytoplasmic Sperm Injection (ICSI) and Intrauterine Insemination (IUI) in a separate test tube baby clinic.

TIME AND MOTION STUDY ON DIALYSIS STAFF
AT
ADITYA BIRLA MEMORIAL HOSPITAL

INTRODUCTION

Time and Motion study also known as Motion and Time study is the scientific study under industrial engineering referring to quantitative data collection for optimal utilization of human resources in the search for the most efficient method of doing task. For Homo sapiens fascination with the word "efficiency" began in the late 19th and early 20th centuries that are when it was considered one of the most important concepts. Time study history dates back to 1880s initiated by Frederick W. Taylor, who is regarded as the "father of scientific management." It consists of a variety of processes for determining the amount of time required, under standard conditions of measurement, for tasks involving some human activity. Motion study was initiated by Frank B. Gilbreth and Lillian M. Gilbreth and consists of description, systematic analysis, and means of improving work methods. These two aspects seemed inseparable. Therefore, the combined term usually refers to all three phases of the activity: method determination, time appraisal, and development of material for the application of these data. This analysis could be used to help find an optimal way of doing the work and could assist in effectively managing or controlling the activity under study. This study typically requires a trained specialist with prior knowledge and observational skills.



This approach has been successfully applied to healthcare services specially hospitals with methodologies and system analysis to study how medical professionals spend their time, how much time nurses spent in patient care and patient's bedside as this is extremely important when looking to improve healthcare enterprise. These studies specific to institutions help improve their

operations, if implemented correctly. There have been widespread claims of quality improvements, better patient satisfaction and millions of cost savings. As said there are two sides of a coin, likewise one challenge to this approach is frequent interactions with patients that are inherent to almost all positions within the healthcare industry because of high cleanliness standards. Another one is the confidentiality of entity under study should be regulated. Therefore time and motion study help inculcate a culture of eliminating the waste in the procedure based on facts. Such a culture is important for healthcare enterprise. The goal of a time and motion study is not simply efficiency. These studies can help in the future when evaluating procedural, equipment, or personnel changes and to understand the skills required to enable individuals to perform the work and, thus to provide the required training.

Dialysis is one of the first technological innovations in medicine - and the only treatment that does not involve transplant, and yet allows a patient with end stage organ failure to live long, healthy and productive lives. Currently, about 2.4 million people are alive on dialysis worldwide. Dialysis removes the “waste” chemicals that accumulate in the blood because the failed kidneys are unable to excrete them. It can be done in two ways: hemodialysis in which the blood is taken out of the body and passed through a machine, and peritoneal dialysis, in which a natural internal membrane lining the abdomen is used to clear the blood. Since the “waste” accumulation is continuous, dialysis must be repeated at regular intervals. This is critical, since the long-term and repetitive. I undertook a time and motion study to provide evidence based understanding of how dialysis staff (technicians, nurses and housekeeping) spends their time and whether they abide by the standard job description. Documenting the possible causes of their inefficiency and recommending possible amendments to work environment to positively influence patient safety and quality of care.

RATIONALE

The aim for doing time and motion studies is to find out the total time delay in the procedure of dialysis, performed in the general ward of the hospital and to ensure optimal performance during a given time period and reduce the number of movements needed to get work done in order to increase efficiency and improve patient satisfaction.

This study is done by observing the staff and by noting the time for each task, to see how long it takes to do a given job and to improve it through setting production goals and reducing unnecessary steps in a process. This study is entirely focused on the time aspect to ensure patient satisfaction and department efficiency.

OBJECTIVES

- To study the optimal utilization of dialysis staff (technicians, nurses and housekeeping staff) for technical and non-technical activities in all three shifts.
- To access the total time delays in the procedure.
- To observe the major reasons for delays and recommending ways for improvement.

METHODOLOGY

- Sample size for time motion study – number of patients tracked n=150
- Study area- Aditya Birla memorial Hospital, Pune.
- Number of staff tracked n= 6(including technicians (6, 3 seniors and 3 students), nurses (2) and housekeeping (2)) in each shift
- Sampling type –Convenience random sampling
- Type of study –Descriptive and Exploratory
- Study hours – 153Hours

- Data collection method –A tool was prepared in which time for each activity in the dialysis procedure was tracked for all three shifts (morning, afternoon and evening).

Description of the tool used for capturing staff (technicians, nurses and housekeeping) data is as follows;

Major Categories-

1. Technical time
2. Non-technical time

These major categories were divided into specific activities as mentioned below:

TIME TAKEN FOR TECHNICAL WORK				
MACHINE RINSE	DIALYSIS PROCEDURE	TIME TAKEN BY TECHNICIAN/NURSE FOR INITIATION	TIME TAKEN BY TECHNICIAN/NURSE FOR TERMINATION	HOUSEKEEPING

TIME TAKEN FOR NON-TECHNICAL WORK			
STAFF ARRIVAL	ARRIVAL OF TECHNICIAN/NURSE FOR INITIATION	ARRIVAL OF TECHNICIAN/NURSE FOR TERMINATION	HOUSE KEEPING ARRIVAL FOR MAKING BED FOR THE NEXT SHIFT

Defining major categories used for making the tool for collection of data:

1. TECHNICAL TIME: This category was used to track the time spent by technicians, nurses and housekeeping staff of the dialysis department for the actual procedure of dialysis. This includes the time for:
    - DIALYSIS PROCEDURE: the total time taken in the dialysis procedure of a patient.
    - MACHINE RINSE: before and after each dialysis shift, the machine is rinsed thoroughly.
    - INITIATION: initiation is the time taken by the technician/nurse to initiate the process of dialysis.
    - TERMINATION: termination is the process which includes removal of syringes and the dressing after the process of dialysis is completed.
    - MACHINE DISINFECTION: done at the end of the evening shift to disinfect the machine.
2. NON-TECHNICAL TIME: This category was used to track the time taken by dialysis staff apart from the technical time. This includes-
    - STAFF ARRIVAL: time at which the staff Technicians / nurses/ housekeeping) reports to the hospital.
    - TIME TAKEN BY STAFF TO START MACHINE RINSE: time between the staff arrival and the machine rinse starting time.
    - STAFF ARRIVAL FOR INITIATION: time taken by the technician/nurse to attend to the patient and start the process.
    - STAFF ARRIVAL FOR TERMINATION: time taken by the technician/nurse to attend to the patient and terminate the process.
    - HOUSEKEEPING ARRIVAL: time taken by the housekeeping staff to come to each bed for the preparation of the next shift.

RESULTS - MORNING SHIFT (7:20 A.M-7:50A.M TO 11:20 A.M-11:50 P.M)

*readings are the average time for each in minutes

TECHNICAL WORK					NON-TECHNICAL WORK				
DIALYSIS MACHINE RINSE	DIALYSIS INITIATION TIME	DIALYSIS PROCEDURE TIME	DIALYSIS TERMINATION TIME	BED PREPARATION TIME	TIME GAP B/W STAFF SHIFT TIME AND THEIR ARRIVAL	TIME GAP B/W STAFF ARRIVAL AND MACHINE RINSE START	STAFF ARRIVAL FOR INITIATION	STAFF ARRIVAL FOR TERMINATION	HOUSE KEEPING ARRIVAL FOR MAKING BED
14.86	13.72	240	11.3	19.72	22.2	4.6	9.76	9.06	18.36

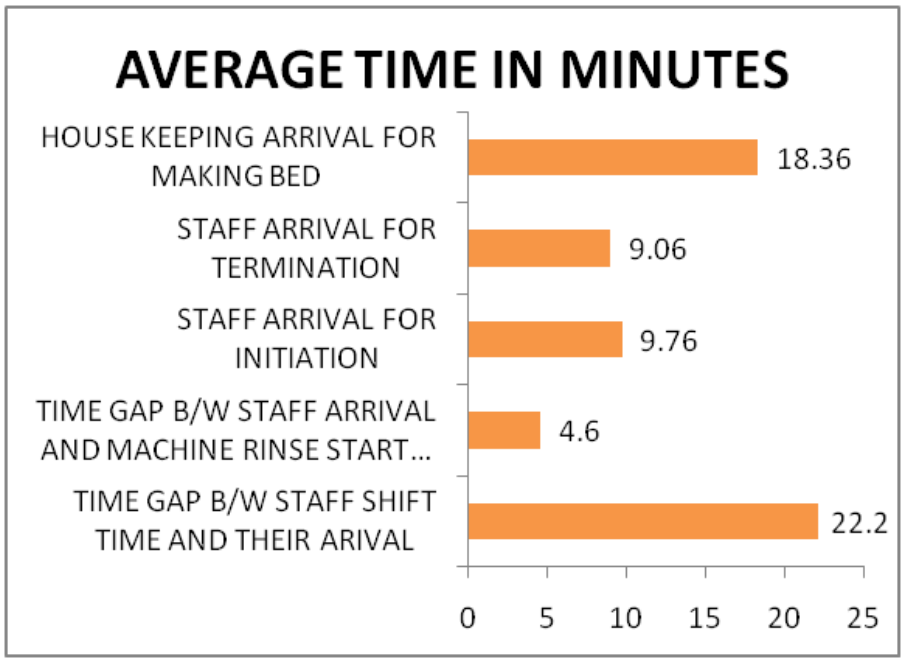

AVERAGE TIME IN MINUTES
HOUSE KEEPING ARRIVAL FOR MAKING BED
18.36
STAFF ARRIVAL FOR TERMINATION
9.06
STAFF ARRIVAL FOR INITIATION
9.76
TIME GAP B/W STAFF ARRIVAL AND MACHINE RINSE START...
4.6
TIME GAP B/W STAFF SHIFT TIME AND THEIR ARIVAL
22.2
0
5
10
15
20
25

FIGURE 1.1

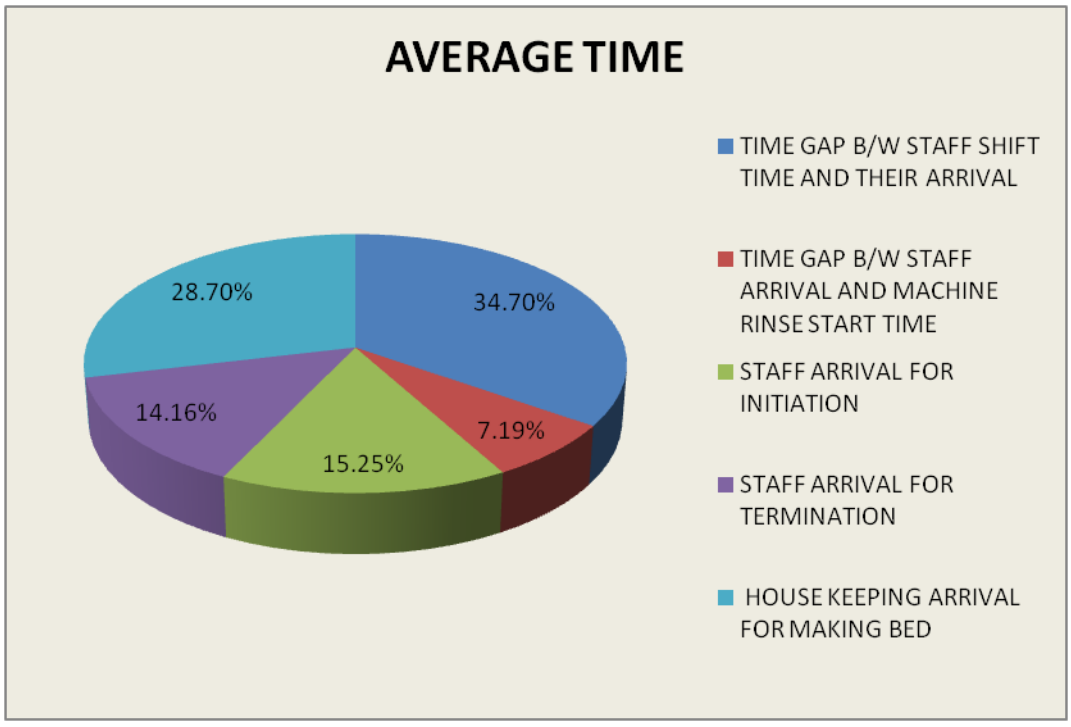

AVERAGE TIME
34.70%
7.19%
15.25%
14.16%
28.70%
TIME GAP B/W STAFF SHIFT TIME AND THEIR ARRIVAL
TIME GAP B/W STAFF ARRIVAL AND MACHINE RINSE START TIME
STAFF ARRIVAL FOR INITIATION
STAFF ARRIVAL FOR TERMINATION
HOUSE KEEPING ARRIVAL FOR MAKING BED

FIGURE 1.2

INTERPRETATION

- The time gap between the shift time and the time at which the patient is taken for the procedure is 25 minutes.
- It is also observed in the morning shift on an average the staff arrives 22.2 minutes after the shift time which accounts for 34.47% cause of delay among the other delays.
- Also the time gap between the patient taken and the arrival of the technician/nurse for the initiation is 9.76 minutes which is 15.25% cause of delay.
- There is a 9.06 minutes gap between the end of the procedure and the arrival of the staff for the termination which accounts for 14.16% of the delay in the overall procedure. The house keeping arrives 18.36 minutes after the patient leaves which is about 28.70% cause of the delay.

AFTERNOON SHIFT (11:45 A.M-12:15 P.M TO 3:45 P.M-4:15 P.M)

*readings are the average time for each in minutes

TECHNICAL WORK					NON-TECHNICAL WORK			
DIALYSIS MACHINE RINSE	DIALYSIS INITIATION TIME	DIALYSIS PROCEDURE TIME	DIALYSIS TERMINATION TIME	BED PREPARATION TIME	TIME GAP B/W STAFF SHIFT TIME AND THEIR ARRIVAL	STAFF ARRIVAL FOR INITIATION	STAFF ARRIVAL FOR TERMINATION	HOUSE KEEPING ARRIVAL FOR MAKING BED
16	9.7	240	9.7	14.32	33.28	6.46	5.72	13.84

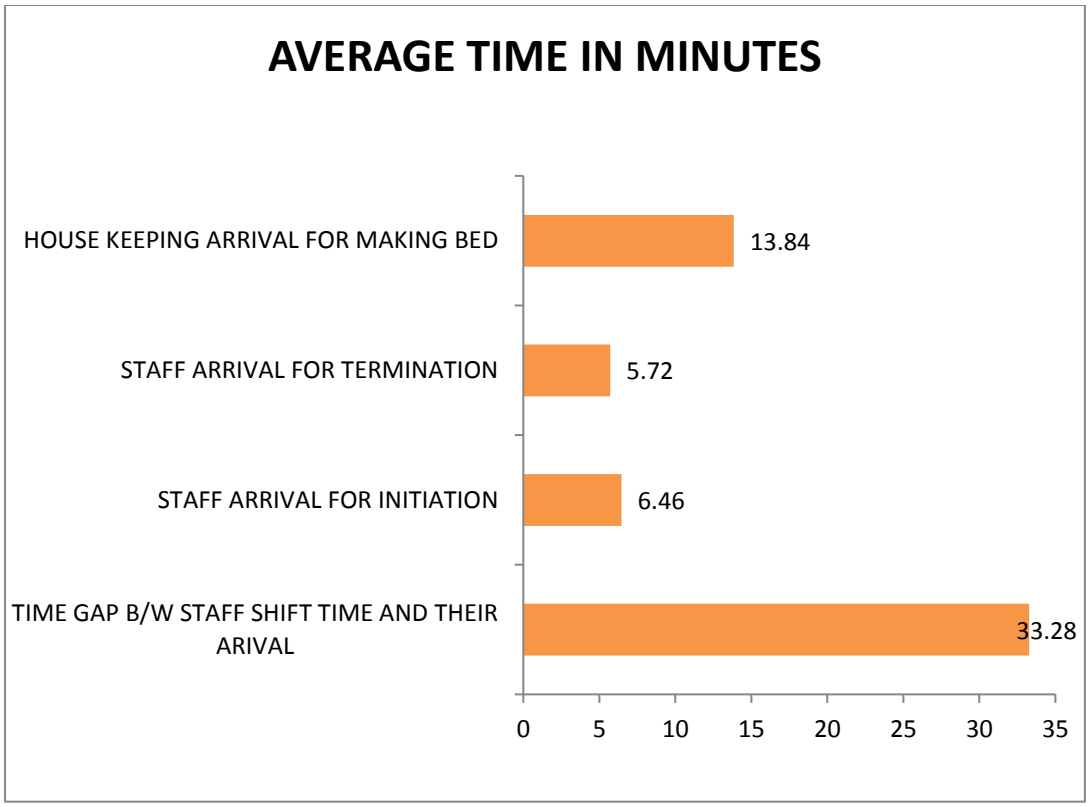


FIGURE 2.1

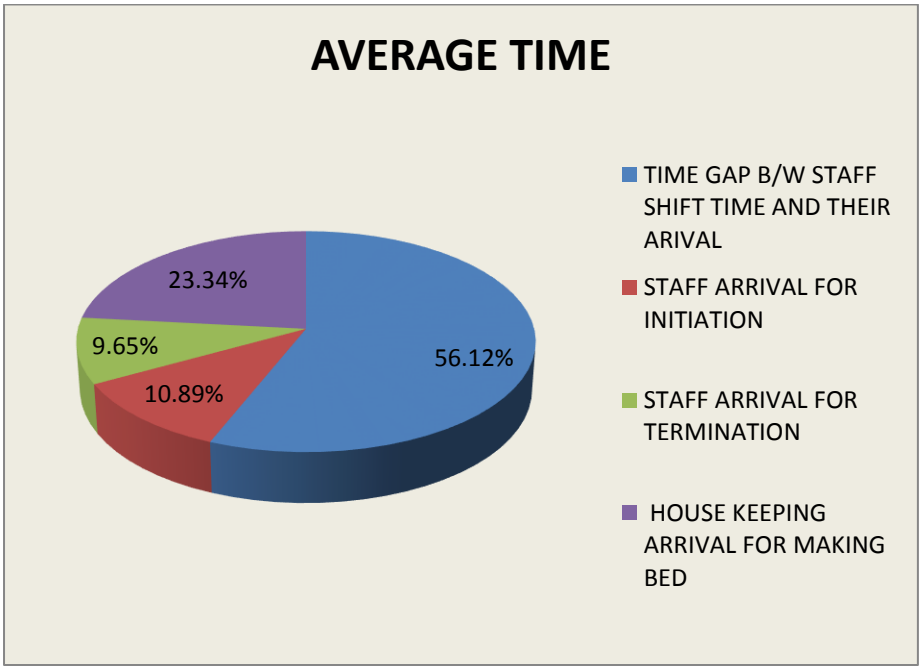


FIGURE 2.2

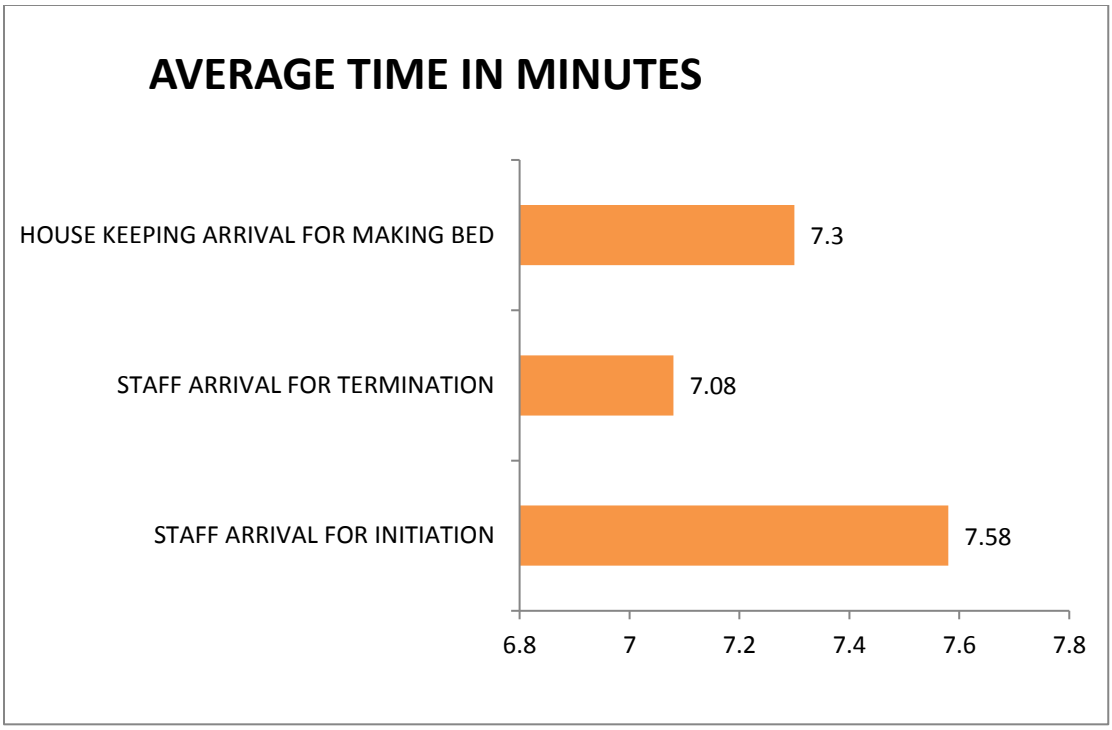
INTERPRETATION

- The time gap between the shift time and the time at which the patient is taken for the procedure is one hour twenty seven minutes.
- It is also observed in the morning shift on an average the staff arrives 33.28 minutes after the shift time which accounts for 56.12% cause of delay among the other delays.
- Also the time gap between the patient taken and the arrival of the technician/nurse for the initiation is 6.46 minutes which is 10.89% cause of delay.
- There is a 5.72 minutes gap between the end of the procedure and the arrival of the staff for the termination which accounts for 9.65% of the delay in the overall procedure. The house keeping arrives 13.84 minutes after the patient leaves which is about 23.34% cause of the delay.

EVENING SHIFT (4:10 P.M-4:40 P.M TO 8:10 P.M- 8:40 P.M)

*readings are the average time for each in minutes

TECHNICAL WORK						NON-TECHNICAL WORK		
DIALYSIS MACHINE RINSE	DIALYSIS INITIATION TIME	DIALYSIS PROCEDURE TIME	DIALYSIS TERMINATION TIME	BED PREPARATION TIME	DIALYSIS MACHINE DISINFECTION TIME	STAFF ARRIVAL FOR INITIATION	STAFF ARRIVAL FOR TERMINATION	HOUSE KEEPING ARRIVAL FOR MAKING BED
16	10.02	190	13.54	7.8	30	7.58	7.08	7.3



FUGRE 3.1

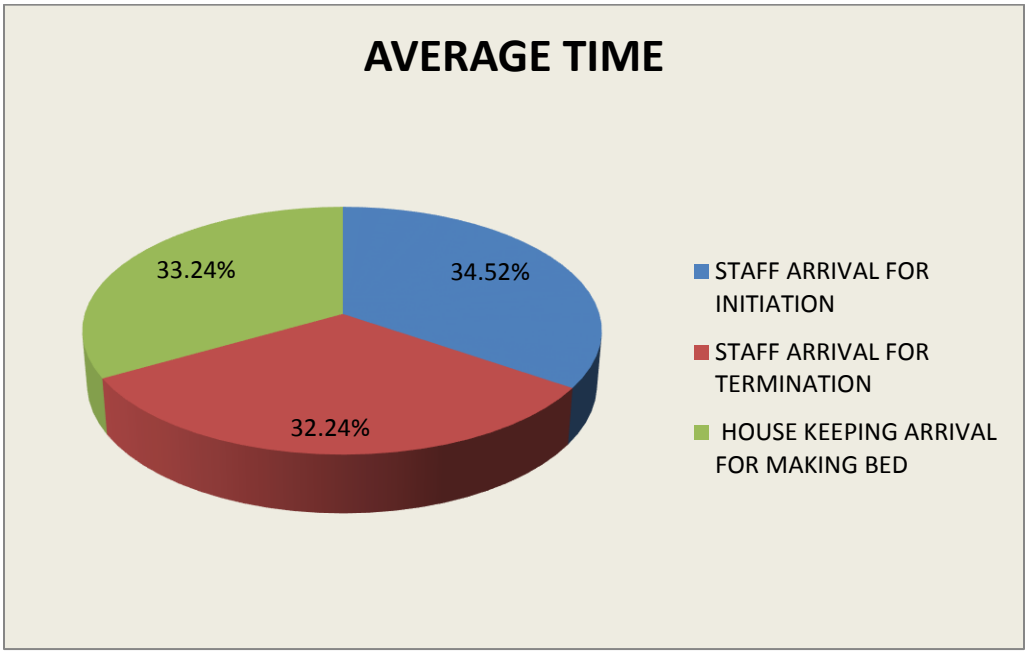


FIGURE 3.2

INTERPRETATION:

- The time gap between the shift time and the time at which the patient is taken for the procedure is one hour forty minutes.
- Also the time gap between the patient taken and the arrival of the technician/nurse for the initiation is 7.58 minutes which is 34.54% cause of delay.
- There is 7.08 minutes gap between the end of the procedure and the arrival of the staff for the termination which accounts for 32.24% of the delay in the overall procedure.
- The house keeping arrives 7.3 minutes after the patient leaves which is about 33.24% cause of the delay.

AVERAGE OFALL THREE SHIFTS
(MORNING, AFTERNOON AND EVENING)

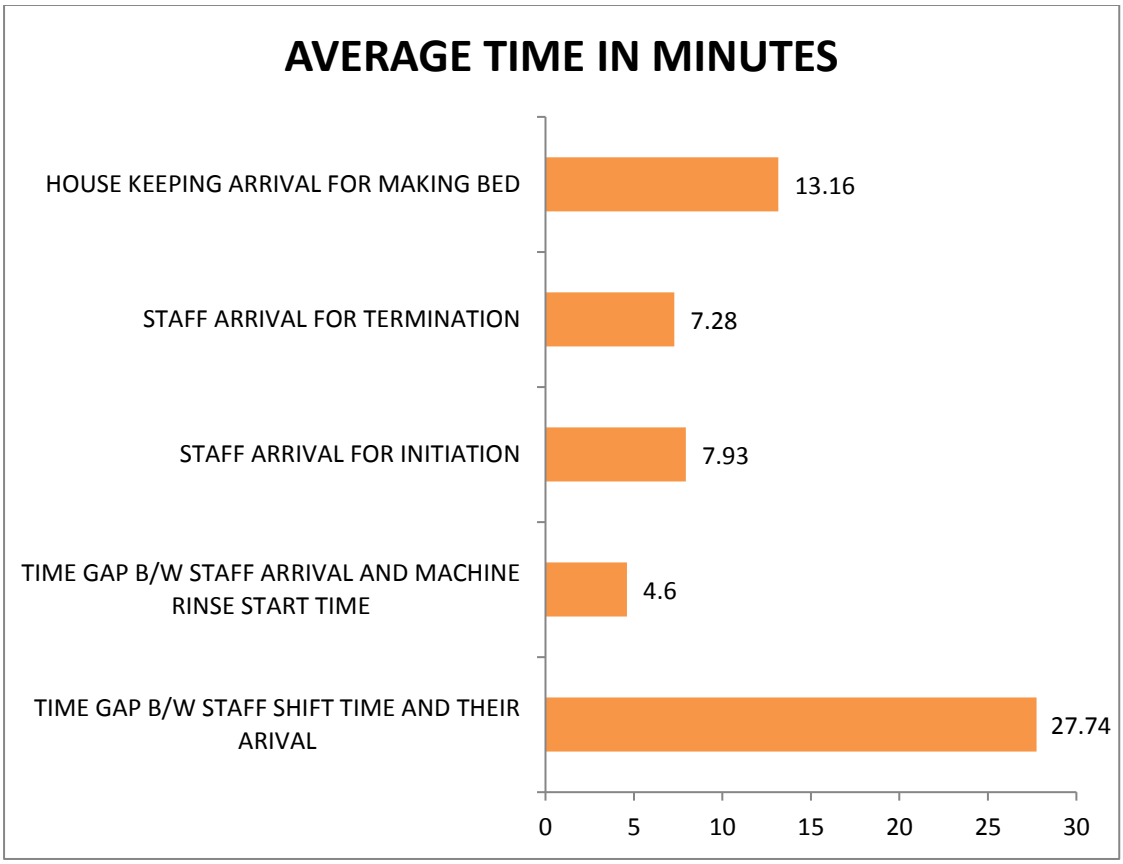


FIGURE 4.1

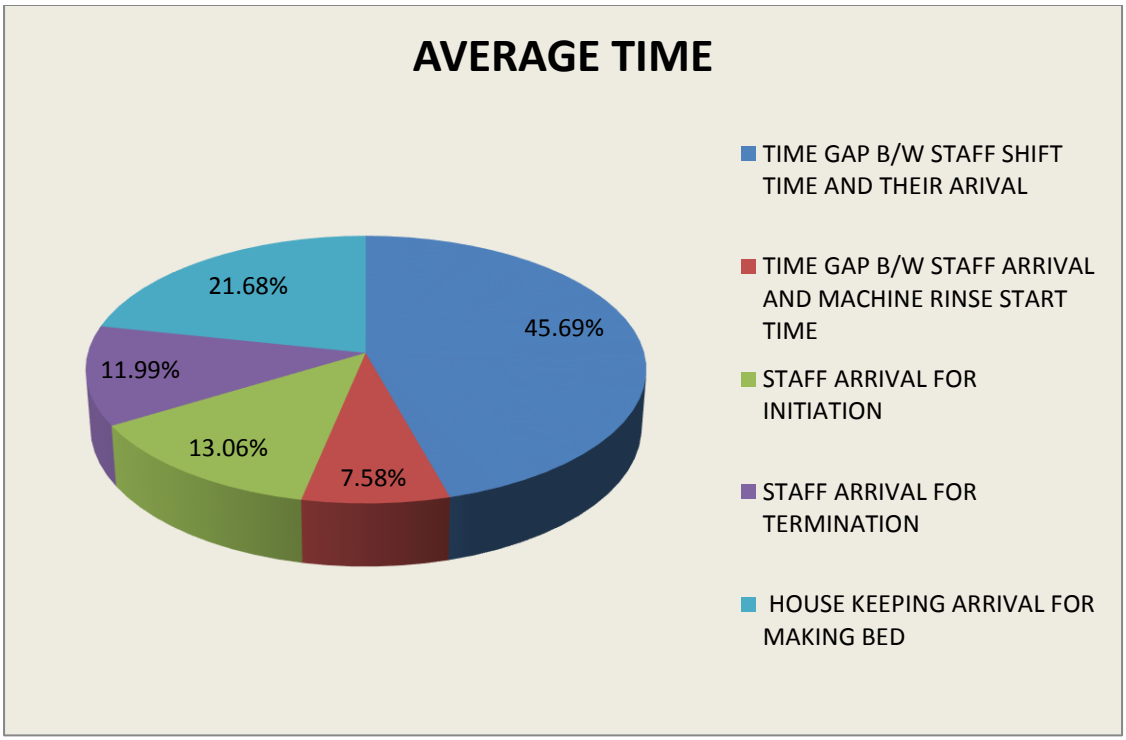


FIGURE 4.2

CONCLUSION

- As observed the time gap between the shift time and the time the patient is taken for the procedure is 18.33 minutes.
- The time gap between the shift time and the staff arrival is 27.74 minutes which is 45.69% of the delay out of the total delays.
- Also, it was observed that technicians/nurses take around 7.28(13.06%) minutes to arrive to initiate the procedure and 7.28(11.99%) minutes to arrive for the termination which should be reduced and checked so as to optimize the utilization of the working hours of them and also increase their efficiency in patient care leading to better quality care.
- Housekeeping general duty attendant are meant for cleaning services in a hospital.it is observed that they take around 13.16 minutes (21.68%) to arrive for the prepare the bed for the next shift. Also it was observed that housekeeping staff has a time span with limited activities to be performed, so this can be optimized for efficient utilization of their working hours by allotting them other activities also.

SUGGESTIONS

- It should be checked that the staff reports on time.
- The staff should not be checked for using their phones during work time as it is often observed that the housekeeping staff is on the phone while making beds for the next shift.
- There should be a bell next to each bed for making it easier for patient to call the attendants when required.
- The patients should be brought in systematically before each shift and thus there should be a queue system.
- Family members should not be allowed inside to avoid chaos and confusion.
- There should be a security guard at the entrance to of the ward to prohibit any person not required to enter the ward.

DRUG DISTRIBUTION SYSTEM
AT
ADITYA BIRLA MEMORIAL HOSPITAL

OBJECTIVES

- To observe the supply chain management of the central pharmacy of Aditya Birla memorial hospital, Pune.
- To observe the inventory management in the central pharmacy.
- To understand the drug distribution system of both inpatient and outpatient pharmacies.

METHODOLOGY

1- Study type- observational and descriptive
2- Study duration- three weeks
3- Study area-
    - Central pharmacy
    - Inpatient pharmacy
    - OT pharmacy
    - Outpatient pharmacy – mother and child and outpatient pharmacy (main building) Oncology and dialysis pharmacy (cancer wing)
4- Study tool- keen observation and interview with staff
5- Study participants- staff of each pharmacy and head of pharmacy department.

OBSERVATIONS

The supply chain management process of the central pharmacy of Aditya Birla memorial hospital-

The central pharmacy prepares an indent for all the material (consumables/drugs) required by the other pharmacy departments in the hospital every day. This indent is forwarded to the purchase department who is further responsible to place a purchase order against the request of the central pharmacy. The suppliers bring the material to the central pharmacy which has a receiving department to receive all the material ordered.

CENTRAL PHARMACY RECEIVING COUNTER:

The receiving counter of the central pharmacy the pharmacist receives goods against the purchase order and checks the order received. While receiving the material, the pharmacist is supposed to cross check details of the bill with the purchase order. These details are-

- The purchase order and invoice quantity should be same or should not exceed the ordered quantity.
- The batch number, MRP, expiry date and pack size, purchase rate of the material are checked. If the details are correct as per the purchase order, the material is accepted.

- In case any of these details are not as per the purchase order the material is only accepted.
- The central pharmacy receiving counter maintains two registers for the material received, out of which one is for consumables and the other for drugs.

Once the material is received its bill and purchase order are sent to the GRN desk.

GOOD RECEIVING NOTE DESK

A good receiving note is a document which is made against the purchase order. With the help of a GRN the goods get received in HIS system.

Once the GRN is completed, the material is sent to the bar-coding section along with copy of GRN for cross verification.

BAR-CODING DESK

- The quantity of the material is checked; the items which do not have a bar code, their details are printed on a bar code and is stuck on each item.
- The MRP, pack size, batch number, expiry date, quantity is rechecked checked during bar coding.
- Some products already have a bar code and their details are added to the system with the help of bar code scanner.

The material bar-coded along with the GRN is handed over to the inventory section.

INVENTORY SECTION

The pharmacists in the inventory are responsible for:

- Checking the stock details and quantity after bar-coding is done.
- Arranging and placing all the material in its designated place.
- Distribution of items to the requested stores

i) Take print out of auto generated stock requests of sub- stores.

ii) They take out items from racks and keep in crates separately (crates are defined by color coding for different drug categories. e.g. Vials in red colored box, ampoules in blue colored box etc.)

iii) Material is then sent to issue section which dispenses the drugs on the system to the required pharmacy.

ISSUE SECTION

The issue section is responsible for issuing the material to the different other pharmacies of the hospital. They issue material either if an issue request by other pharmacies is sent or by taking out the auto indents. Steps in issuing material:

- The request is handed over to the pharmacists who take out all the material mentioned in the stock request.
- The material being issued is added in the system with the help of its barcode. This is done so that the issued quantity of material is removed from the central pharmacy and is shown in the stock of the pharmacy it is issued to.

The material is again checked by the pharmacists and is then taken to the respective pharmacy by the house keeping staff once it is issued.

- **STORAGE OF DRUGS IN CENTRAL PHARMACY:**

The drugs should be stored at room temperature thus; the temperature of the central pharmacy is maintained to be between 20-21 degrees.

The different dosage forms are stored in the central pharmacy in the following manner:

- Consumables are all stacked in three rows of racks.
- Storage of drugs:
    - One rack contains all oral drops, suppositories, Rota caps, inhalers, enema, and respiratory solutions all stacked separately and alphabetically.
    - Another rack contains all ear drops, nasal sprays and lotions which are stacked separately in shelves alphabetically.
    - Creams and ointments, shampoos, soaps are set aside in a different rack alphabetically.
    - There are three racks for syrups out of which one is for pediatric syrup and the other two are for the storage of adult syrups all stacked alphabetically.
    - Health supplements for mother and baby are separately stored in one rack.
    - Capsules, ampoules and vials are stored in three different rows of racks alphabetically.

- Bulk items are all stored separately. These items are separated with a partition between each. Bulk items include IV material n\, material for peritoneal dialysis and consumables like gloves and ward items.
- High risk drugs are all stored in a cupboard separately.
- Costly items (drug price> 700) are stored in 2 different cupboards separately.
- Costly consumables (price>700) are stored in a different room.
- Flammable drugs are all stacked in a corner right next to the fire extinguisher.
- Drugs which need to be refrigerated are all stored in a separate room. This room has three refrigerators out of which one contains all the vaccines, the others is used to store cancer drugs and other drugs and one is for insulin and some other drugs. These drugs are to be maintained between temperatures of two to eight degrees whereas certain drugs like polio vaccines are to be kept in minus temperature.
- The near expiry products, nonmoving products, discarded and damaged products are stored separately in racks and once approved for purchase return are returned back to their vendors.

INVENTORY CONTROL PRACTICES

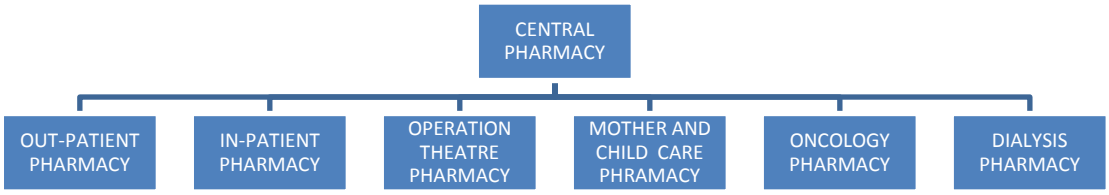
To ensure inventory control the central pharmacy has adapted certain methods:

- FIFO (first in first out) - in this the material purchased first is issued first
- VED analysis- according to this analysis drugs are classified into three categories which are vital, essential and desirable.
- ABC analysis- this analysis categorizes drugs on the basis of their movement.
  - ❖ higher moving drugs come under A category
  - ❖ normal moving drugs come under B category and
  - ❖ C category includes rare moving drugs.

    Every month the near expiry checking of materials is done for the products expiring in the next three months and is purchase returned to the vendors.
    Nonmoving drugs are taken out every six months and are purchase returned to the vendor.

- **DISTRIBUTION OF DRUGS**

Drugs from the central pharmacy are distributed to the following pharmacies within the hospital.



The central pharmacy supplies drugs to different pharmacies according to their requirements. Aditya Birla memorial hospital has a hospital information system (HIS) which automatically reflects a stock request on the system. An automatic request is shown on the system when any of the stock is sold within 24 hours. Otherwise a stock request is sent to the central pharmacy by the respective pharmacy for the material they require. The auto indent which is also known as a stock requisition includes the following details:

- Document number
- Source store
- Issuing store
- Item code
- Description
- Quantity
- Signature of employee who checks the stock requisition
- Signature of employee who approves the stock requisition

INPATIENT PHARMACY-

Inpatient pharmacy stores and dispenses drugs to patients admitted in the hospital.

STORAGE OF DRUGS:

The drugs in the inpatient pharmacy are all stored in racks alphabetically and by LASA (look alike sound alike) method making it easier for the pharmacist to locate the required drug and saves time.

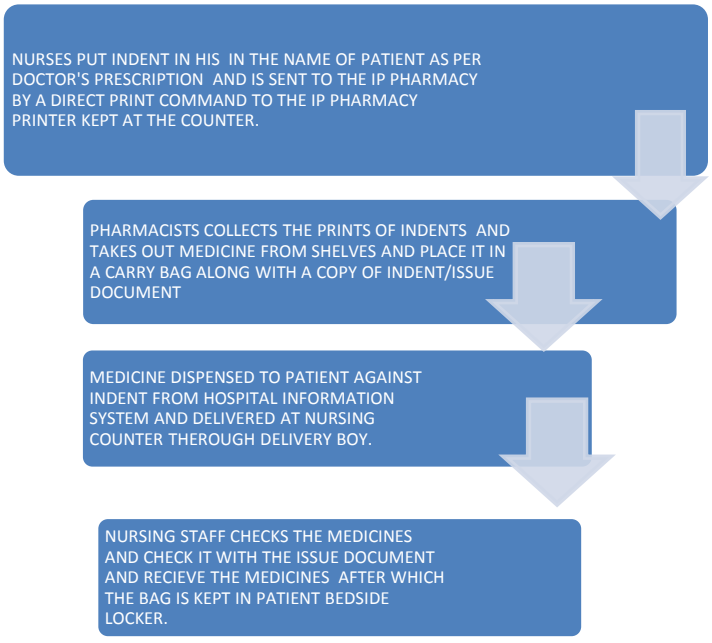
- Costly drugs (price>700) are stored separately in a cupboard.
- Drugs which need refrigeration are refrigerated between two to eight degrees.

DISTRIBUTION OF DRUGS-

The drugs from the inpatient pharmacy are distributed to the all the areas of the hospital where the patients are admitted. These are:

1. Intensive care units(ICU, PICU, NICU, SICU)
2. Wards (e.g.- gold, platinum, emerald and sapphire wards)
3. Accident and emergency

For admitted patients, nurses send an indent or take the indent to the inpatient pharmacy individually for each patient and all the material is taken out and put into packets along with a copy of the request and is kept in racks at the entrance of the inpatient pharmacy where the nurses come and collect the material from.



OUT-PATIENT PHARMACY:

There are 4 pharmacies which come under the category of outpatient pharmacy.

- Outpatient pharmacy
- Mother and child care pharmacy
- Oncology pharmacy
- Dialysis pharmacy

The out-patient pharmacies store and distribute the drugs to patients who come for treatments and check-ups in the hospital.

STORAGE OF DRUGS-

Drugs in the out-patient pharmacies are stored in racks and drawers alphabetically. There is a refrigerator for the storage of drugs which are to be stored in the refrigerator.

SALE OF DRUGS- drugs from the out-patient pharmacies are only dispensed to the patients who are not admitted in the hospital. These patients come from general or private OPD to buy the drugs which are prescribed to them by the doctors.

OPERATION THEATRE PHARMACY

The operation theatre pharmacy stores and dispenses drugs and consumables to patients undergoing an operation or in the cat lab.

STORAGE OF DRUGS:

- Consumables are arranged according to their requirement i.e. fast moving/ essential medications which are required for almost every operation are kept near the issuing counter.
- The OT pharmacy drugs are stored in racks alphabetically.
- Drugs to be stored at temperature below room temperature are stored in the refrigerator between 2-8 degrees.
- It maintains its minimum inventory stock.

DISTRIBUTION OF DRUGS- in case of requirement of implants the OT pharmacy sends a request to the central pharmacy who send the indent to the purchase department. The OT pharmacy team gives all the requirements to the nursing staff/technician as per the cases booked in OT.

For cath lab there is a fixed cath lab kit (e.g. angioplasty kit, angiography kit etc) which is then issued to cath lab operation theatre. It contains all the required material required for the procedure.

RECOMMENDATIONS AND SUGGESTIONS

- The flammable material should be kept in a different room along with the fire extinguisher.
- There should be more than one pharmacist at the receiving counter to take and check the purchase order.
- There should be more counters for the issue section so that the medicines are issued to the various other pharmacies more quickly