

**Summer Training at
Global Hospital,
Mumbai**

- **Tracking and Monitoring of Discharge Process-Planning of Discharges**
- **Radiology Department-Tracking and Monitoring**
- **Utilization of Operation Theatre and Manpower Utilization**
- **Inventory Management of High Consumption Mid Value Drug**

**By
Prachi Agarwal**

**Under the guidance of
Mr. Abhishek Dadhich**

**MBA Hospital and Health Management
2015-2017**



**The IIHMR University, Jaipur
2016**

TO WHOMSOEVER MAY CONCERN

This is to certify that **PRACHI AGARWAL** student of MBA Health Management from The IIHMR University; Jaipur has undergone internship training at **GLOBAL HOSPITAL, MUMBAI**, from **1st April 2016 to 31st May 2016**.

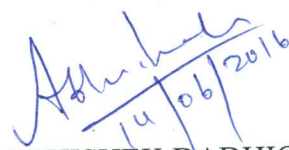
The Candidate has successfully carried out the study designated to her during internship training and his approach to the study has been sincere, scientific and analytical.

The Internship is in fulfillment of the course requirements.

I wish her all success in all her future endeavors.



Col (Dr) Ashok Kaushik
Dean, Academics and Student Affairs
The IIHMR University, Jaipur



ABHISHEK DADHICH
Assistant Professor
The IIHMR University, Jaipur

TO WHOM SO EVER IT MAY CONCERN

This is to certify that Dr. Prachi Agarwal, 1st year student of MBA - Master in Hospital and Health Administration at the Institute of Health Management Research, Jaipur has successfully completed 2 months (from 1st April to 31st May, 2016) internship program at our Hospital.

During the period of her internship Program with us, she was found punctual, hardworking and inquisitive.

We wish her very best in her future endeavour.

Yours truly,

For Global Hospital



Anil Kumar

AGM – Human Resources



Dr. Manish Gupta

Vice President- Medical Services



ACKNOWLEDGEMENT

Summer training is a golden opportunity for learning and self-development. I consider myself very honored to have so many wonderful people lead me through the completion of the project.

I am extremely indebted to all the professionals at Global Hospital, Mumbai for sharing their knowledge and precious time which inspired me to do my best during summer training.

I owe a great debt to Unit Head Human Resource Mr. ANIL for providing me an opportunity to work as a trainee in their organization. I would like to thank Dr. Manish Gupta (V.P Medical services), Dr. Jigna Shirotriya (Deputy manager, Medical services), Mr. Sagar Aloni (Executive assistant to CEO) for the summer training in GLOBAL HOSPITAL, without their help it would not have been possible for me to understand the hospital to the extent as I have now. I am highly grateful to all the staff of RADIOLOGY, OT, IPD, PHARMACY AND Department for their cooperation which enabled me to complete my special assignment in the department. I am also grateful to all the department heads and staffs for giving me time in spite of their busy schedule.

I also want to extend my thanks to Dr. S.D. Gupta, Director-IIHMR for incorporating right attitude towards learning and Col. (Dr.) Ashok Kaushik, Dean-Academics and Students Affairs, IIHMR, for helping and supporting me to reach my goals.

Finally I acknowledge my indebtedness to my guide of The IIHMR University, Mr. Abhishek Dadhich for providing me constant support by guiding me throughout my training period.

Sincerely,

Dr. PRACHI AGARWAL

MBA-HM (2015-2017)

ABOUT GLOBAL HOSPITALS

Global Hospitals Group is 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, Orthopedics & 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 programs for both medical and non-medical professionals. Recognized by the government bodies for research, the Group has made significant strides in advanced medical research programs including Stem Cell and Regenerative Medicine Programs.

Equipped with India's largest Multi-Organ Transplant Centre and the country's renowned team of experts in a host of specialties, Global Hospitals Group has now evolved into a clinical powerhouse giving a new lease of life to many battling with end-stage diseases.

ANAESTHIOLOGY

The Department of Anesthesiology at Global Hospital, Mumbai is an important and integral part of the institute and makes continuous efforts to deliver outstanding Pre-operative Care. Patient safety and satisfaction, intense pre-operative monitoring, pleasant recovery and Postoperative pain management are the foremost objective of the department.

Specialized care is provided for Cardiac surgery, Neurosurgery, Laparoscopic surgery, Orthopedic surgery, Urosurgery, Bariatric surgery, Kidney and Liver transplant surgeries.

CRITICAL CARE

The Critical Care practice at Global Hospitals is based on clinical expertise, extensive research, and consistent application all integrated into the providing the best critical care available to the patients. Advanced equipment, state-of-the-procedures and a team of highly specialized critical care experts ensure that we remain at the cutting edge of critical care in the country

HPB AND LIVER SURGERY

The Institute of Liver, Pancreas Diseases & Transplant at Global Hospitals, Mumbai is recognized as one of the pre-eminent transplant facility in India for all liver, pancreas and other gastroenterology problems. Also acknowledged as the world's most comprehensive, multidisciplinary disease-management center, the Institute offers specialized treatment of liver and pancreas related diseases.

The institute undertakes a coordinated, multidisciplinary approach to liver care and employs some of the most well-known experts in the field of liver and pancreatic care. Surgical treatment is required in cases of diseases of liver, gall bladder, bile ducts and pancreas in both children and adults due to cysts, cirrhosis, and cancer amongst others.

A team of highly skilled Hepatologists, Medical Gastroenterologists, Surgical Gastroenterologists and HPB surgeons works with qualified physicians and clinicians to treat a host of liver and pancreatic diseases.

LABORATORY MEDICINE

Department of Laboratory Medicine at Global Hospitals Mumbai, provides round-the-clock services managed by competent pathologists.

Hematology& Clinical Pathology

- Complete workup of Hematological malignancies
- Haemoglobinopathies
- Workup on thrombophilia
- Platelet function and aggregation studies
- Thalassemia
- Deficiency Anemia
- Leukemia
- Red Cell Fragility
- Auto Immune Disorder
- Red cell Serology

GASTRO ENTEROLOGY

Global Hospitals is the one of the best gastroenterology hospital India, with renowned gastro and hepatology doctors providing end to end gastro treatment options. It takes a multidisciplinary approach to the treatment of gastroenterological problems. Premiere gastroenterology hospital in Mumbai, Global Hospitals specializes in gastro procedures at an affordable cost.

MULTIORGAN TRANSPANTATION

The Institute for Multi-Organ Transplant at Global Hospitals, Mumbai offers a comprehensive suite of transplant programs for Kidney, Liver, Heart, Lung and others. The institute employs state-of-the-art technology and world-procedures and the premier multi-organ transplant unit in India.

Undertaking continuous research efforts and employing an expert panel of transplant surgeons, physicians and support specialists – the institute is a true leader in organ transplantation.

ARTHROSCOPY AND SPORTS MEDICINE

The Institute of Orthopaedics, Joint Replacement & Sports Medicine at Global Hospitals, Mumbai houses one of the best orthopedic and joint replacement units in the country. The institute carries out extensive knee and shoulder arthroscopies for a wide range of conditions.

CARDIOLOGY

The Department of Dermatology at Global Hospitals, Mumbai provides the best treatment for all skin related ailments. Treatments are available for both common skin rashes, itchiness etc., as well as for rare and complex skin disorders. The expert panel of doctors at the Department caters to both general dermatology as well as cosmetic services for all age groups.

Aside from dermatological and cosmetic services, Global Hospitals also treats various symptoms of skin cancer.

ENT

The Institute of ENT, Head & Neck surgery at Global Hospitals, Mumbai delivers comprehensive treatment and services for problems related to Ear, Nose, Throat as well as the Head, Neck, and Skull-Base all under one roof. Using the most modern and innovative technology, the institute is adept at carrying out both basic and advanced nasal endoscopic surgeries for endoscopic and combined skull-base surgeries, micro ear/micro laryngeal surgeries, nasal/laryngeal/esophageal endoscopies, and surgery for deafness.

INTERVENTIONAL RADIOLOGY

The Interventional Radiologists in Global Mumbai perform a variety of complex diagnostic and interventional procedures related to the vascular system, lymphatic system, biliary system and kidneys.

- Most procedures can be performed on an outpatient basis or require only a short stay.
- General anesthesia is usually not required
- Risk, pain and recovery time are often significantly reduced.
- Procedures can be less expensive than surgery or other alternatives.

LIVER TRANSPLANTATION

Global Hospitals Mumbai is one of the top liver hospitals housing expert liver transplant surgeons in India. Global Hospitals Mumbai offers end-to-end liver care and liver transplantation options and it is one of the finest Liver Transplant centers in India having attained the status of excellence in liver care and liver transplantation.

The Mumbai liver transplantation center has a division focusing only on liver and pancreatic care. This dedicated division boasts some of the best Liver Specialists (Hepatologists), Transplant Surgeons, Transplant Anesthesiologists Transplant Nurses, Physiotherapist and Transplant Coordinators in the country. Regarded as the world's most comprehensive and multidisciplinary disease-management centre,

Transplant procedures offered by Global Hospital's Liver Institute at Mumbai include:

- Living donor liver transplant
- Deceased / Cadaver donor liver transplant
- Split liver transplant
- Auxiliary liver transplant
- Pediatric liver transplant

- Partial liver transplant
Liver transplant center at Mumbai specializes in advanced surgical

MEDICAL ONCOLOGY

Renowned oncology hospital Mumbai, Global Hospitals is the top cancer hospital in the city providing one of the best breast, prostate and other cancer treatment in India. The distinctiveness of the institute lies in its efforts to treat the cancers of different organs of the body with different but comprehensive procedures. The Department of Medical Oncology under the Global Cancer Institute (GCI) at Global Hospitals, Mumbai is one of the six approaches to provide complete cancer care services.

NEPHROLOGY

In Mumbai, the Institute of Nephrology at Global Hospitals is a leader in the diagnosis, treatment and management of all kidney-related diseases. The institute provides the full spectrum of kidney treatments; delivering the best possible results in cases of congenital, acquired and degenerative kidney diseases.

With India's leading nephrologists working in a team, the institute focuses on early intervention as well as offers dialysis support, transplant, and clinical research. The institute has broken new ground in the development of renal/ kidney transplantation in both live and cadaveric donors, and is one of the most innovative and well-known facilities for the treatment of kidney related disorders.

The institute offers the most appropriate, comprehensive and cost-effective treatment for a wide range of problems of the kidney and urinary tract. The following kidney problems are addressed at the Institute:

- Diabetic Nephropathy
- Acute Kidney Injury
- Collagen Vascular Disease
- Chronic Kidney Disease
- All types of Glomerular diseases- Acute Glomerulonephritis, Nephrotic Syndrome.
- Immunological Kidney diseases including SLE, Vasculitis
- Cystic Kidney disease

- Congenital Kidney disorders
- Obstructive Nephropathy
- Renal Stone diseases

BARIARTIC SURGERY

The institute is committed to helping each patient attain and maintain a healthy weight. It is a center of excellence for various minimal access bariatric surgeries. These surgeries are also performed at other Global Hospitals locations in Hyderabad, Chennai and Bangalore.

CARDIOTHORACIC AND VASCULAR SURGERY

The Centre of Excellence for Cardiology, Cardiothoracic & Vascular Surgery at Global Hospitals, Mumbai is a comprehensive, innovative and advanced care facility. Offering the complete spectrum of endovascular procedures - coronary intervention and peripheral intervention, heart surgery, heart bypass surgery as well as heart transplantation surgery - the Centre is one of the first and few facilities in India to perform a coronary PCI by radial artery approach.

EMERGENCY MEDICINE AND TRAUMA

The Advanced Emergency Medicine & Trauma Care Centre at Global Hospitals, Mumbai is equipped with the requisite personnel and facilities to provide round- the-clock emergency services. Trauma physicians, emergency room physicians, surgical residents, and nurses, are available at all times and are prepared to respond to all medical contingencies.

Immediately stabilizing patients suffering from life threatening conditions and beginning the process of critical care even before the patient reaches the hospital is the hallmark of our emergency care services.

The treatments and procedures offered at the Emergency and Trauma Care Center include:

- 24/7 emergency services dealing in medical and surgical emergencies
- Tertiary trauma center with a trauma team, including neurosurgery, orthopedics, general surgery and anesthesiology
- The emergency department is equipped with emergency operation theatre, triage room, trauma bay, transit ward, pneumatic system for blood investigation, and shock room that is exclusively meant for cardiac arrest patients for CPR (Cardiopulmonary resuscitation)
- The hospital offers 24/7 ambulance services and have an ambulance control room.
- All critical care emergencies
- Road Traffic Accidents

- Head Injuries
- Medical Emergencies
- Burns

GENERAL MEDICINE

Employing advanced diagnostic methods to assess the severity and/or cause of a condition, the General medicine practice also promotes disease prevention methods and champion's education and awareness. General medicine specialists at Global Hospitals, Mumbai offer a multi-disciplinary approach to provide a holistic and comprehensive management of diseases.

HEPATOLOGY

Working on the cutting-edge of some of the most ground breaking achievements in treatment of liver and pancreas related diseases, Global Hospitals, Mumbai offers personalized care for chronic liver and pancreatic diseases including – Hepatitis B & C, liver cirrhosis, cancers and other ailments. Evaluating individuals on their specific symptoms and health conditions, the expert panel of our doctors seeks to devise individual treatment plans.

KIDNEY TRANSPLANTATION

Global Hospital's Kidney Transplant program is one of the largest in India. The transplant program covers both live and cadaveric transplants with Global Hospitals being the first hospital in India to perform combined Kidney & Heart transplantations.

Global Hospitals has pioneered the development of Renal Transplantation in India, both in the Live Related and Cadaveric donor program. The institute is first in India to perform simultaneous Heart and Kidney-SHK, a Series of Sequential Liver and Kidney Transplants.

The kidney transplantation program at Global Hospitals is the state-of-the-art program utilizing the newest and the safest immunosuppressive agents. The institute's Kidney Transplant nephrologists work closely with transplant surgeons and urologists to ensure high clinical outcomes. The institute also has facilities to perform cross-match positive transplants & ABO incompatible transplants (across the blood group barrier) for patients who do not have a blood group compatible donor.

The institute also performs minimally invasive surgery (laparoscopic donor kidney removal) for renal donors thereby minimizing post-operative recovery time and hospitalization.

MAXILLOFACIAL SURGERY

The Department of Maxillofacial Surgery at Global Hospitals, Mumbai offers comprehensive care for all dental and maxillofacial procedures. Specialists at the Department offer treatment and surgery for diseases, injuries and defects in the head and neck region.

The specialty consists of expertise in both dental and surgical aspects of medicine. Specialists in this field specialize in the diagnosis and treatment of diseases that affect the mouth, jaws, face and the neck.

NEUROLOGY AND NEUROSURGERY

Global Hospitals Mumbai is an advanced super-specialty Institute with one of the best Neurology and Neurological Surgery Departments in India!

Treating Brain-related Neurological Disorders demands the best Standard of care, internationally acclaimed Expertise and Cutting - Edge technology. This is exactly what the Institute of Neurosciences at Global Hospitals aims to provide and deliver on a consistent basis, by bringing together a team of acclaimed Neurologists, Neurosurgeons and allied health professionals, up-to-date and innovative technology and superior patient-oriented care practices to deliver the best possible outcomes.

The Department of Neurosurgery, which works under the auspices of the Institute of Neurosciences Disorders, offers comprehensive consultation, evaluation, and treatment services for patients with neurological disorders.

RADIOLOGY AND IMAGING

The department of radiology & imaging serves as one of the most important nodes in the delivery of expert and specialty healthcare at Global Hospitals, Mumbai. Striving to offer the highest quality service to physicians, and compassionate care and convenience to patients, the Department of Radiology and Imaging, Mumbai focuses clinical acumens, training, research, and development on discovering new techniques that optimize early detection of serious health conditions and diseases, their progression and their response to treatment.

SURGICAL GASTROENTEROLOGY

The Institute of Advanced Gastroenterology & Therapeutic Endoscopy at Global Hospitals, Mumbai brings together diverse specialties for the evaluation and treatment of various digestive diseases. Alongside a critical multidisciplinary team of medical gastroenterologists and specialist

surgeons to ensure a comprehensive solution to all gastroenterological problems, the Institute employs advanced investigations and offers expert advice on diet and lifestyle.

PHYSICIATRY

The Department of Psychiatry at Global Hospitals, Mumbai is committed to the improvement of mental and emotional health of individuals and employs some of the country's leading clinical experts and specialists in the field of psychiatry. The Department is one of India's leading behavioral health facilities working towards evolving the best treatment and correctional plans for various psychiatric disorders.

RHEUMATOLOGY

The Department of Rheumatology at Global Hospitals, Mumbai takes a multidisciplinary approach for the treatment of rheumatic diseases. Largely associated with the elderly, rheumatic diseases have now begun affect certain young individuals as well. A common rheumatic disease is the rheumatoid arthritis – an autoimmune disease that causes joint inflammation and pain.

The Rheumatology Department offers a wide range of services to patients for diagnosis and treatment of joint, bone and connective tissue diseases. Providing comprehensive and individually-tailored treatment plans, the Department seeks to fuse together clinical expertise, research and state-of-the-art technologies. Working with other specialties such as orthopedics, the Department of Rheumatology has successfully treated various forms of rheumatic disorders.

VASCULAR AND ENDOVASCULAR SURGERY

The Centre for Vascular and Endovascular Surgery at Global Hospitals is recognized for its expertise in treating all diseases and conditions affecting the veins and arteries. Vascular surgeons and cardiovascular specialists at the Centre use advanced treatment techniques to offer compassionate care for patients across a variety of vascular disorders including arterial blockages, aneurysms, hemodialysis access, carotid artery disease, venous disease and Peripheral Artery Disease (PAD).

TRANSFUSION MEDICINE

The Department of transfusion medicine at Global Hospitals, Mumbai has a licensed blood bank and state-of-the-art facilities to provide safe and appropriate blood components. The Department collects; stores; and issues blood and blood components. It employs a team of FDA approved expert doctors, technicians, and registered nurses to ensure that patients and blood donors receive the best care and attention. The Department is a leading facility for transfusion medicine.

PROJECT TOPIC-1

TRACKING AND MONITORING OF DISCHARGE PROCESS-

PLANNING OF DISCHARGES

BACKGROUND

Discharge planning is "A process used to decide what a patient needs for a smooth move from one level of care to another." Only a doctor can authorize a patient's release from the hospital, but the actual process of discharge planning can be completed by a social worker, nurse, case manager or other person. Ideally, and especially for the most complicated medical conditions, discharge planning is done with a team approach.

Discharge is a process and not an isolated event. It has to be planned for at the earliest opportunity across the primary, hospital and social care services, ensuring that individuals and their relatives understand and are able to contribute to care planning decisions as appropriate.

The process of discharge planning should be co-ordinated by a named person who has responsibility for co-coordinating all stages of the 'patient journey'. This involves liaison with the pre-admission case co-coordinator in the community at the earliest opportunity and the transfer of those responsibilities on discharge.

The benefits of effective discharge planning are:

For the patient-

- needs are met
- Able to maximize independence
- feel part of the care process, an active partner and not disempowered .

For the relatives-

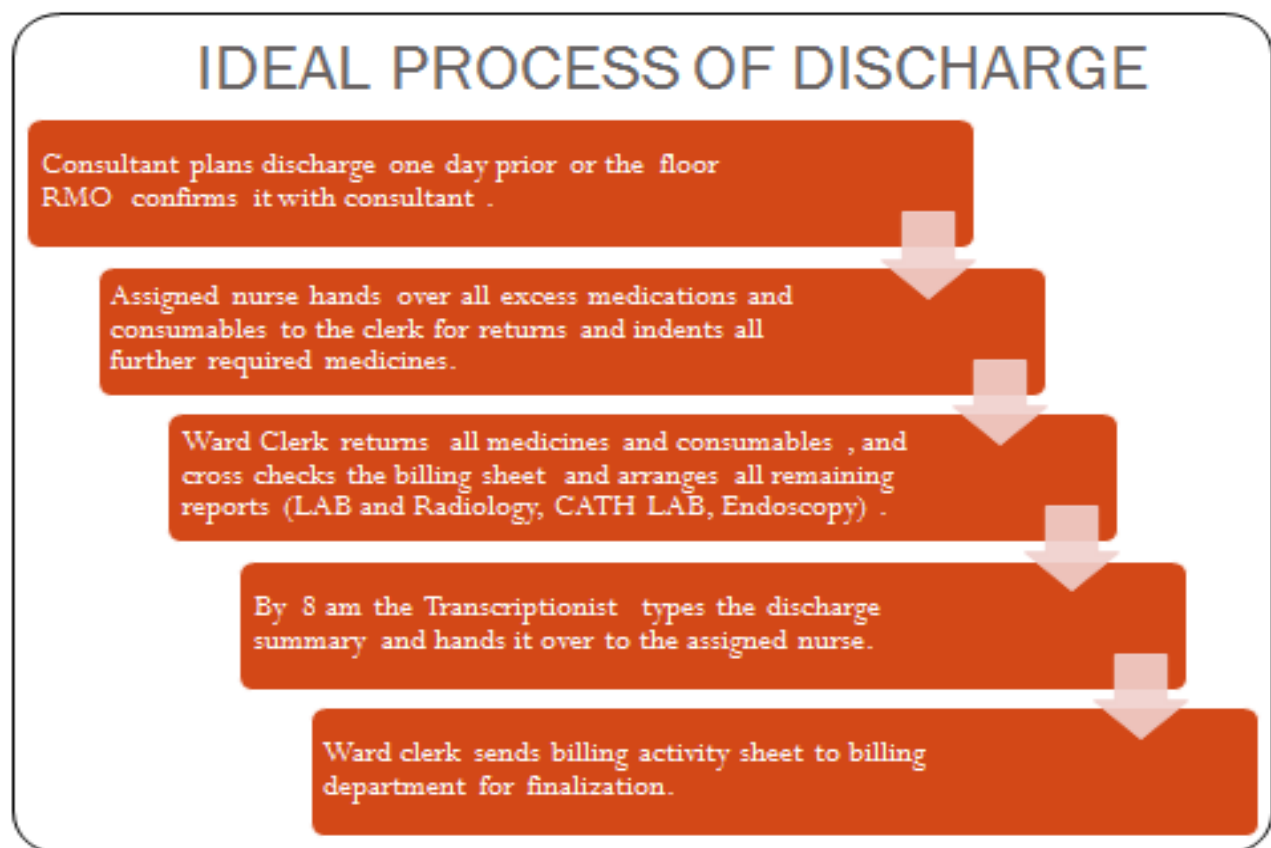
- feel valued as partners in the discharge process
- consider their knowledge has been used appropriately
- are aware of their right to have their needs identified and met
- feel confident of continued support in their caring role and get support before it becomes a problem
- have the right information and advice to help them in their caring role
- are given a choice about undertaking a caring role
- understand what has happened and who to contact.

For the staff-

- feel their expertise is recognized and used appropriately;
- receive key information in a timely manner;
- understand their part in the system;
- can develop new skills and roles;
- have opportunities to work in different settings and in different ways;
- Work within a system which enables them to do so effectively.

For organizations-

- Resources are used to best effect
- Service is valued by the local community
- Staff feel valued which, in turn, leads to improved recruitment and retention
- meet targets and can therefore concentrate on service delivery
- Fewer complaints
- Positive relationships with other local providers of health and social care and housing services;
- Avoidance of blame and disputes over responsibility for delays.



CASH

After finalizing the patient bill the respective floor incharge is informed

Patient relatives complete the billing formality.

Assign Nurse hands over all the investigation reports as well as films to patient and explains all the medications .

Floor security checks the discharge copy and releases the patient from the floor .

Patient care attendant escorts the patient till hospital exist gate.

TPA

Billing department finalizes the patient bill and forwards the same to TPA Department along with patient original reports and discharge summary.

TPA department forwards the same documents to the respective med claim company for final approval .

The med claim company (TPA) sends the final approval to the hospital through mail.

After finalizing the patient bill, billing Department informs the floor incharge.

Patient relatives complete the billing formality and are escorted to the exit gate after complete patient education, handing over of reports by nursing staff and security check.

Rationale of the study-

- To monitor and track the discharge process and observe the problem areas suggesting the recommendations for the same in the discharge process.

Objectives-

1. To track and monitor the discharge process of the hospital.
2. To identify a complete and efficient patient discharge process while meeting the protocol of the process in the hospital.
3. To improve process inefficiencies by finding out better options for the process.
4. To maximize the number of planned discharges in order to make the process flow smooth.

DATA COLLECTION & METHODOLOGY

Data Collection:

The procedure followed is enumerated below:

The study was performed from 5th April to 13th April 2016 on the patients that were admitted in the IPD department of the hospital.

The aspects covered under it were:

- Discharge intimation time (consultant time).
- Start of billing time.
- End of billing time.
- Physical discharge of patient from the hospital

Methodology:

- Tracking of the discharges in IPD was done from 5th April 2016 to 13th April 2016.
- This included the planned and unplanned discharges of the days for CASH and TPA patients
- Average Time Taken for Cash and TPA Discharges in Planned and Unplanned Cases was also calculated and tabulated in the form of graphs and charts.

Study Type – observational study.

Sampling method – Convenient sampling method

Study Participants: Patients of IPD department of the hospital.

Study Technique – Observation.

Study Tool – MS-Excel sheet was prepared

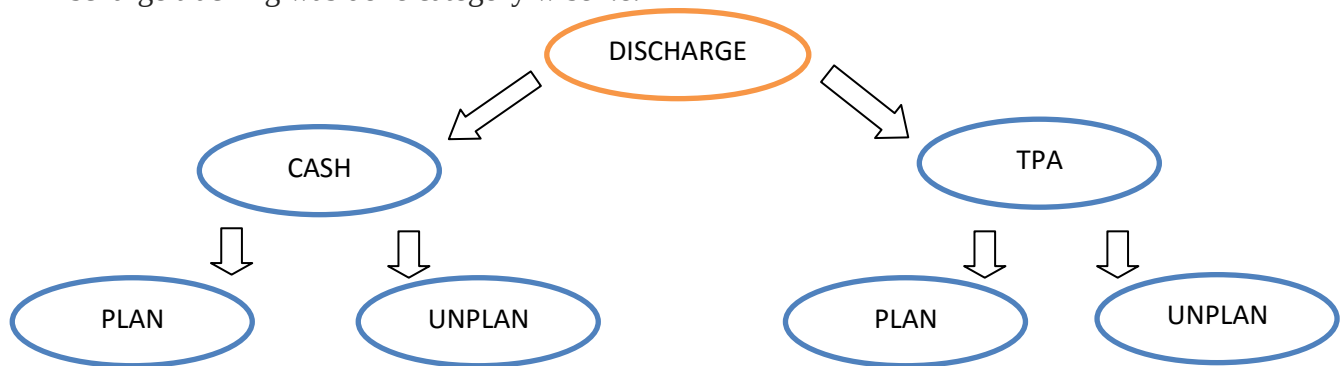
Data analysis – Done with the aid of MS-Excel sheets. The data was entered in sheets equipment wise and then analyzed with the help of graphs.

Ethical Considerations- The confidentiality of the data given by GLOBAL HOSPITAL was maintained.

DATA ANALYSIS AND INTERPRETATION :

The data was analyzed on the following, as per asked by the organization.

Discharge tracking was done category wise i.e.-



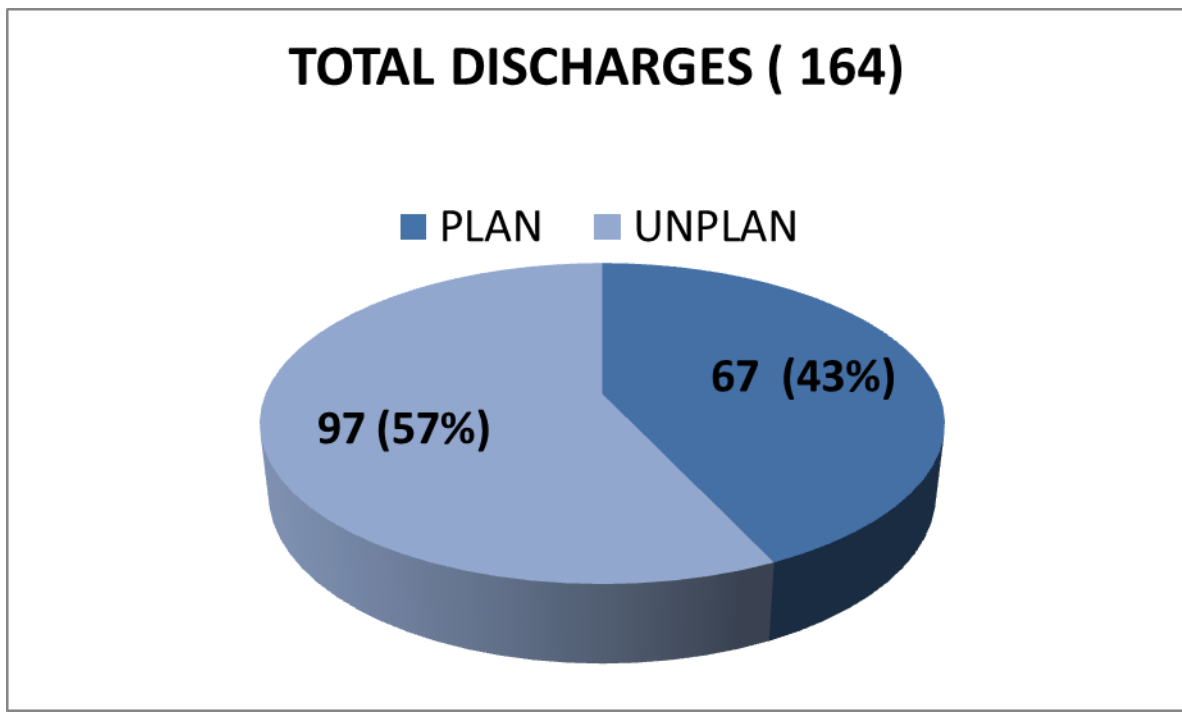
Plan discharges are those which were planned a day prior by the consultant that the concerned patient will get discharge the next morning before 11 a.m.

Unplanned discharges are those which were not planned and the consultant ask for the discharge any time he feels the patient is fit to go back home.

The data as selected and manipulated by the organization as asked.

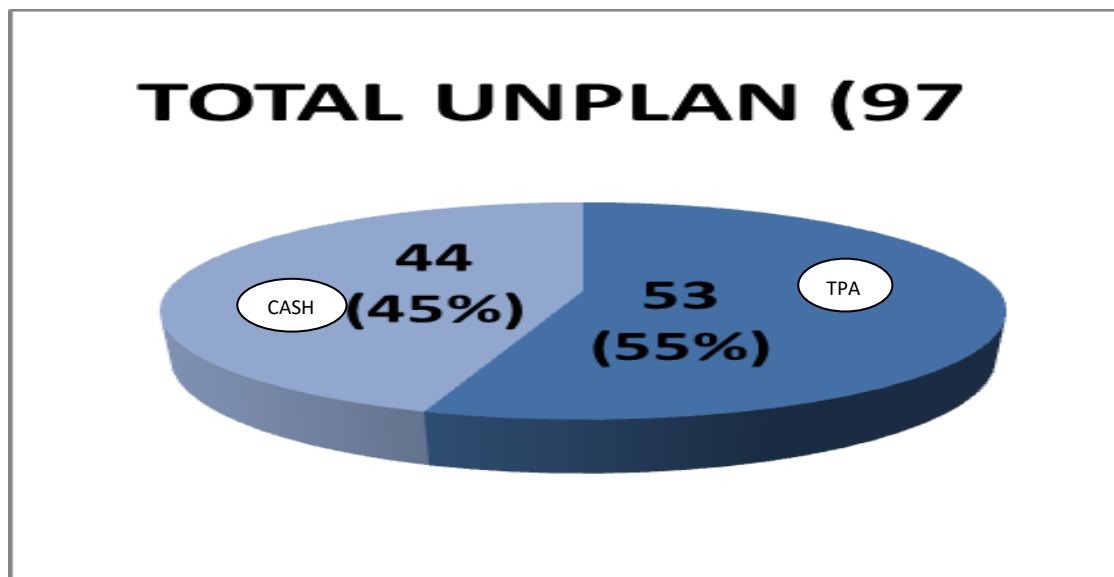
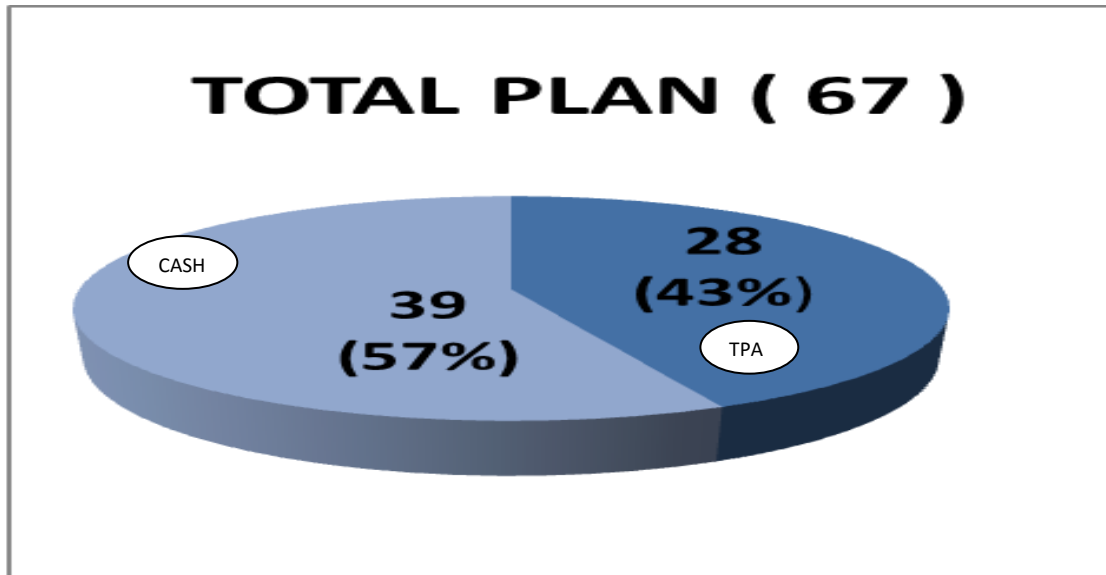
Following is the representation of data in graphs charts and pie charts according to the given points for analysis.

TOTAL NUMBER OF DISCHARGES



The total number of discharges that were observed during the time came out to be 164, out of which 57% discharges were planned and 43% discharges were unplanned. This shows a higher amount of unplanned discharges which affects the bed turnover rate of the hospital as it will hinder in planning of admissions of new patients.

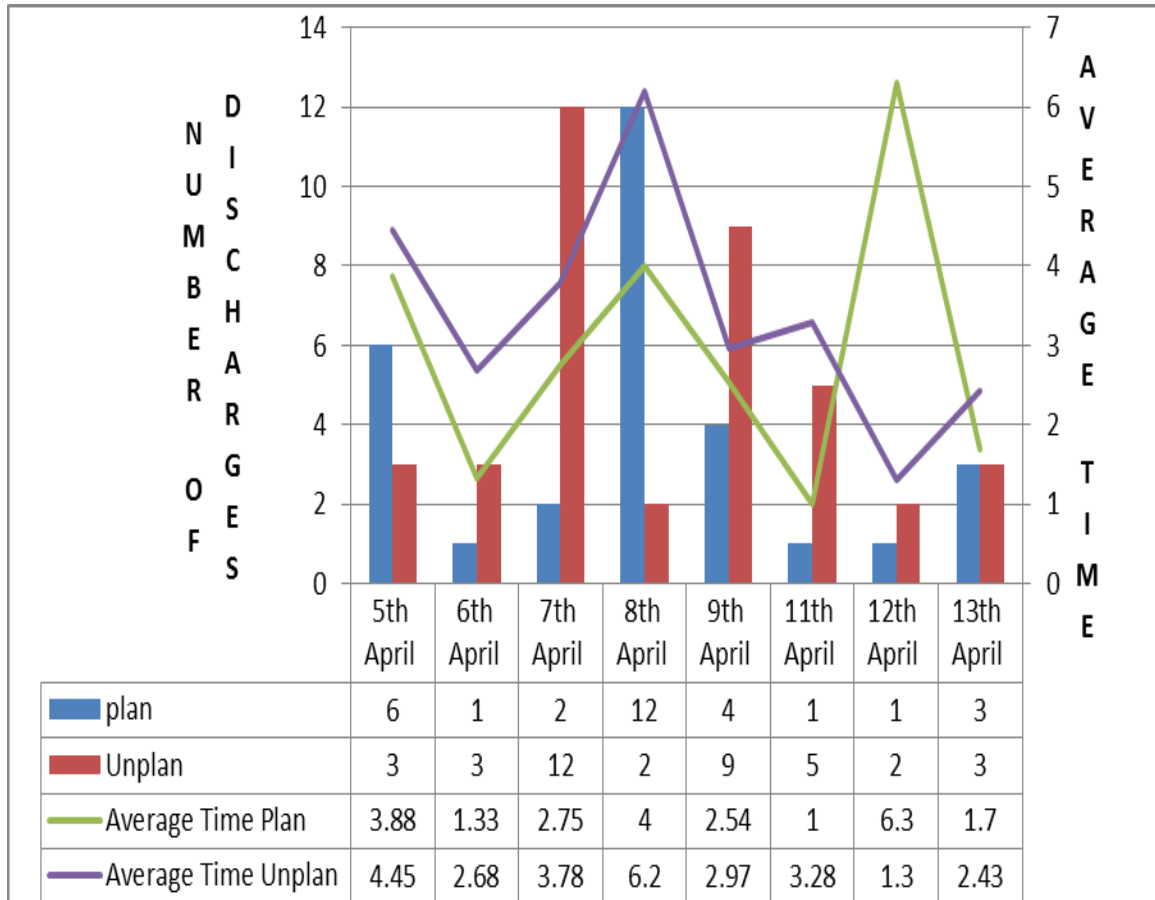
Further the data was classified as –CASH and TPA



Total number of CASH patients in PLAN was observed as 43% and TPA -57%

Total number of CASH patients in UNPLANNED was observed as 55% and TPA – 45%

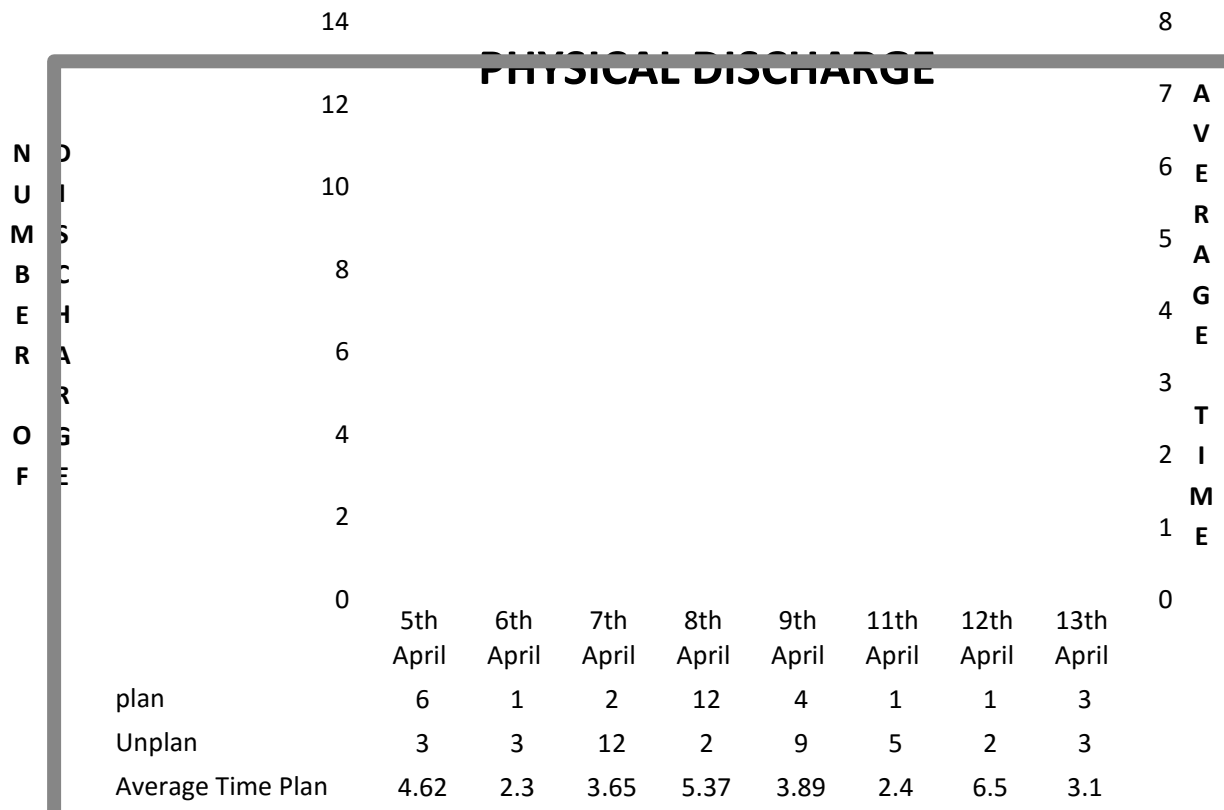
AVERAGE TIME FOR CASH PATIENTS FROM INITIATION OF DISCHARGE TO BILLING CLOSURE



It was observed that maximum average time for planned patients was 6.3 hours which was observed due to lack of RMO on the IPD wing leading to delay in preparing the discharge summaries of the patients which increased the average time.

For unplanned patients, maximum time calculated was 6.2 hours which was observed due to delay from the consultant's side as they were not certain about the discharge.

AVERAGE TIME FOR CASH PATIENTS FROM BILLING CLOSURE TO PHYSICAL DISCHARGE OF THE PATIENTS

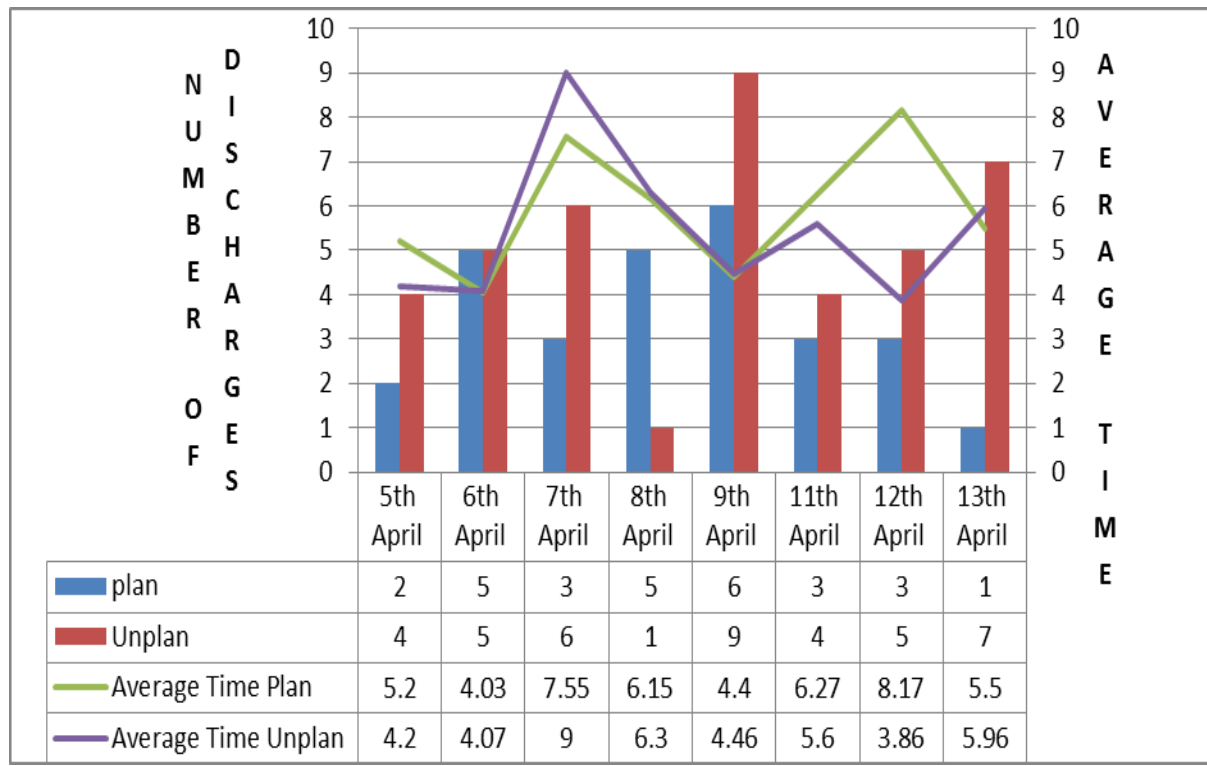


It is observed that maximum average time taken for cash patients to physical leave the hospital from the closing of billing for planned patients was 5.37 hours which occurred because the patient wanted to stay.

Most of the time it was observed that if there is a delay in physical discharge of the patient then this comes from patients side only as many a times they wanted to meet the consultant once for some queries so they tend to wait and few cases where patients stay back because they claim they have paid for the whole day and night so they stays till that time.

For unplanned patients maximum average time was observed as 7.38 hours which occurred due to delay of few investigatory reports i.e. MRI/CT which the patient was supposed to collect and then go.

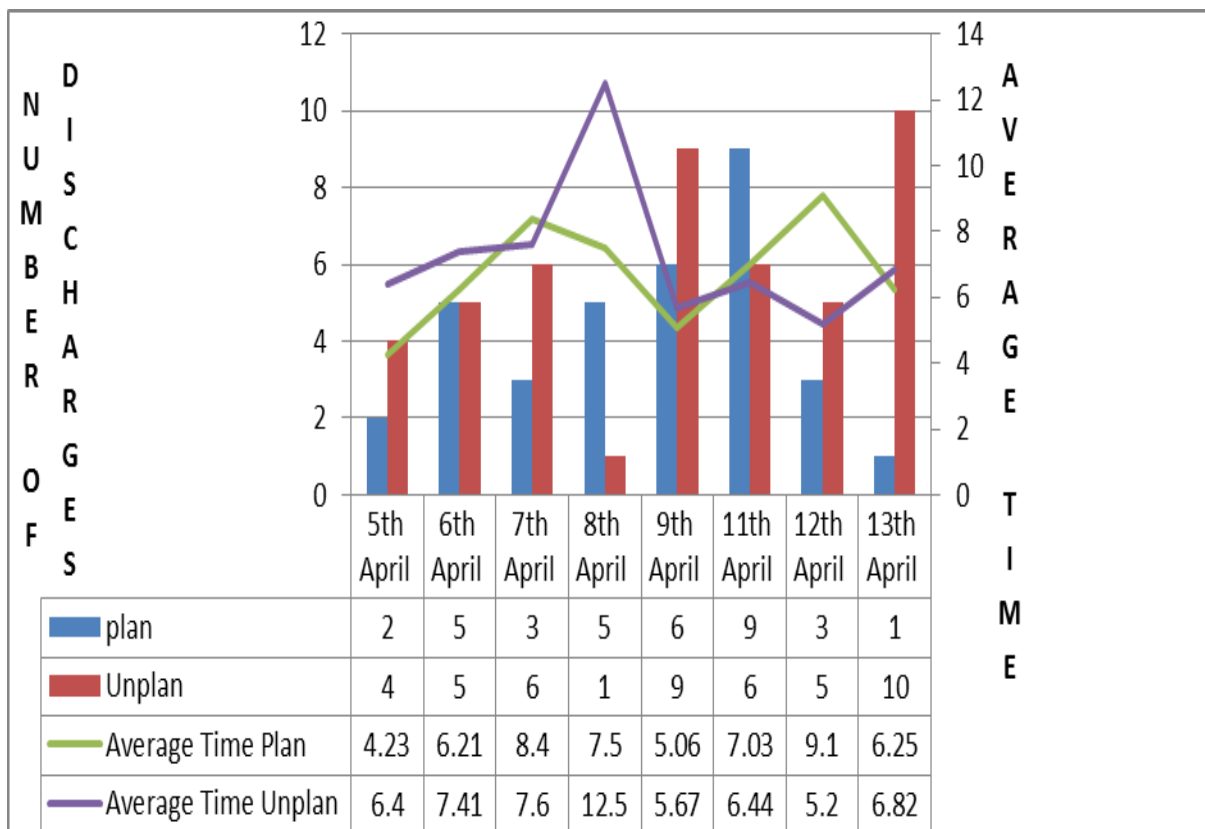
AVERAGE TIME FOR TPA PATIENTS FROM INITIATION OF DISCHARGE TO BILLING CLOSURE



It is observed that maximum average time for planned patients was 8.17 hours as these are TPA cases i.e. THIRD PARTY ASSURANCE so they tend to take a span of 6-8 hours to complete the insurance formalities and provide the claim to the patients.

For unplanned patients maximum time was calculated as 6.3 hours, it was observed again due to delay from the billing department to complete the insurance claim formalities.

AVERAGE TIME FOR TPA PATIENTS FROM BILLING CLOSURE TO PHYSICAL DISCHARGE OF THE PATIENTS



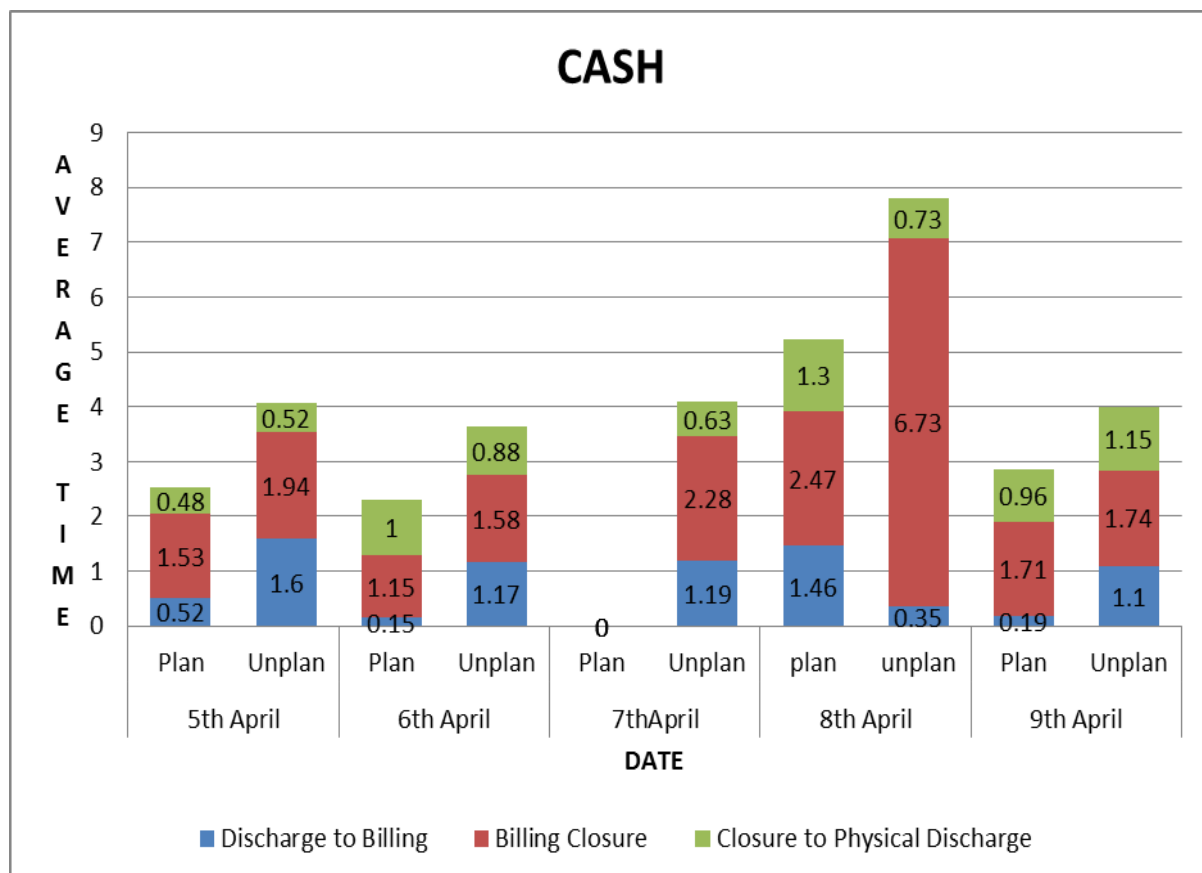
It is observed that maximum average time taken for cash patients to physical leave the hospital from the closing of billing for planned patients was 7.5 hours and for unplanned patient's was 12.5 hours.

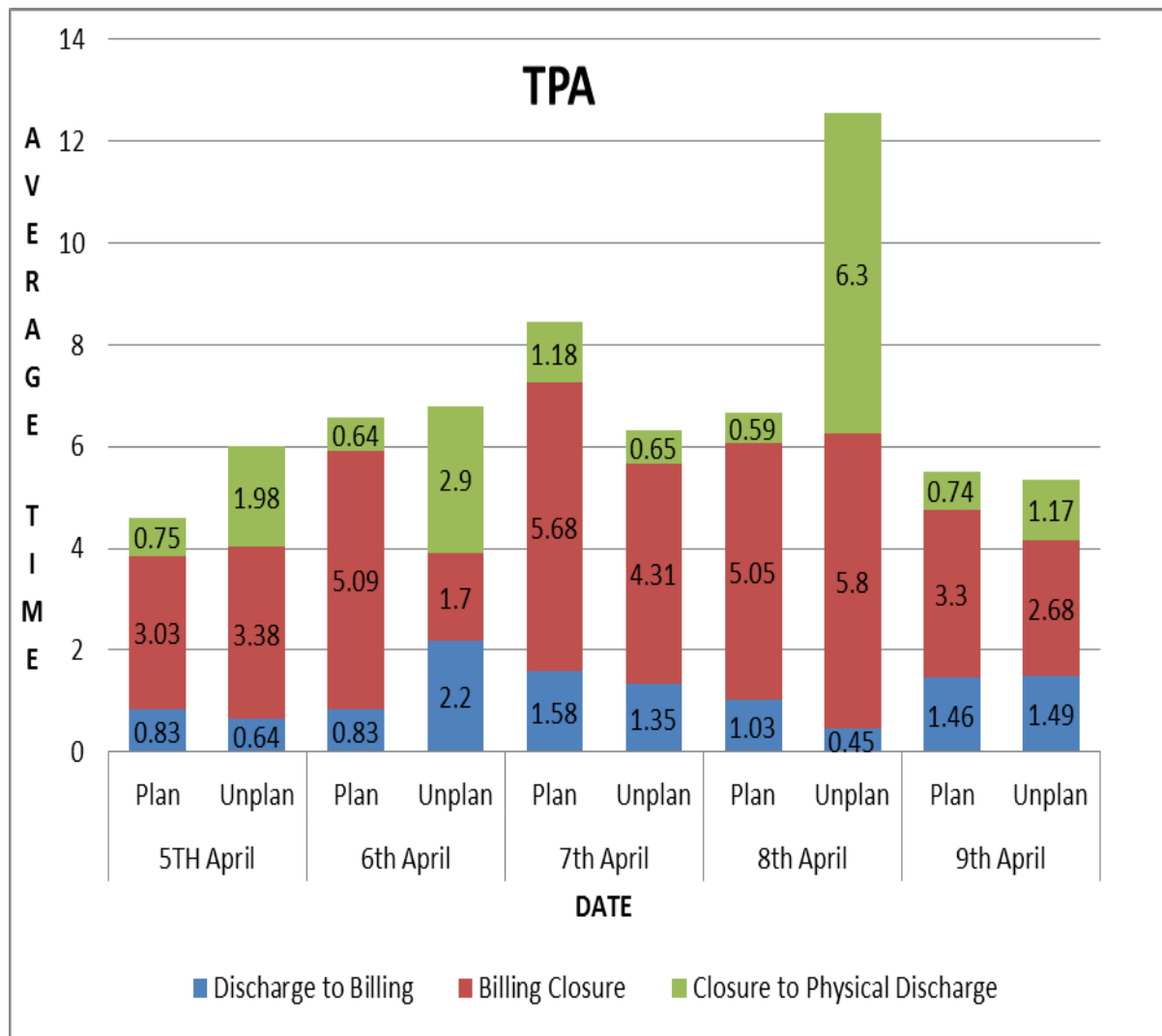
This was observed due to certain delay from the patient's side as some times they waited to meet the consultant, other time they wanted to stay as they have paid for a longer stay in the hospital and many a times due to some final investigatory report to arrive.

Assimilation of data was done to show the complete discharge monitoring in the form of stacked bar graph.

This shows the total time taken per day for CASH and TPA, PLANNED and UNPLANNED discharges which is divided into-

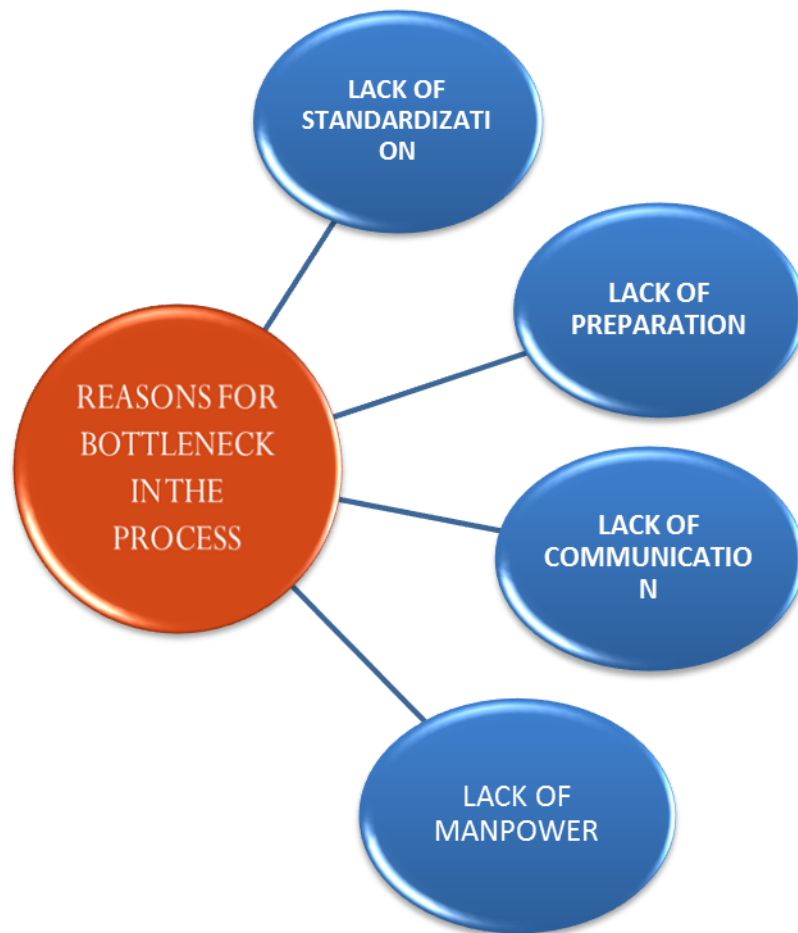
- Total time from discharge of patient to start of billing
- Total time from start of billing to end of billing
- Total time from end of billing to the physical exit of patient from hospital.





The above graph shows average time taken by different processes in the whole discharge process both in CASH and TPA cases even depicting few delays on few days which helped to track the reasons behind the delays and to find ways to avoid such delays in future.

OBSERVATIONS



CONCLUSION

- Due to huge numbers of unplanned discharges the whole process of discharge is delayed
- Loopholes are seen in the HIS system which makes it difficult to intimate all the departments together which are concerned, at the time of initiation of discharge.
- For the improvements and maintenance of improvement, if any, we must equip our staff with the knowledge to adequately track and analyze our discharge data in real time. This can be accomplished using daily run charts for each floor that will be monitored by the Head nurse manager for each floor.

RECOMMENDATIONS

1. A standard procedure of discharge should be implemented and staff should be made aware of the same.
2. Nurses should be provided with the ability to enter patient discharge intimation which occurs upon patient floor admission in the EMR system. (in departments of pharmacy, billing , laboratory ,radiology etc)
3. Discharges should be planed and also confirmed a day prior to the actual date of discharge.
4. Improve communication between the interdisciplinary discharge team.
5. Adequate manpower should be available on the floors.
6. HIS system up gradation should be done in order to reduce paperwork and total time.

PROJECT TOPIC-2

RADIOLOGY DEPARTMENT-

TRACKING AND MONITORING

BACKGROUND –

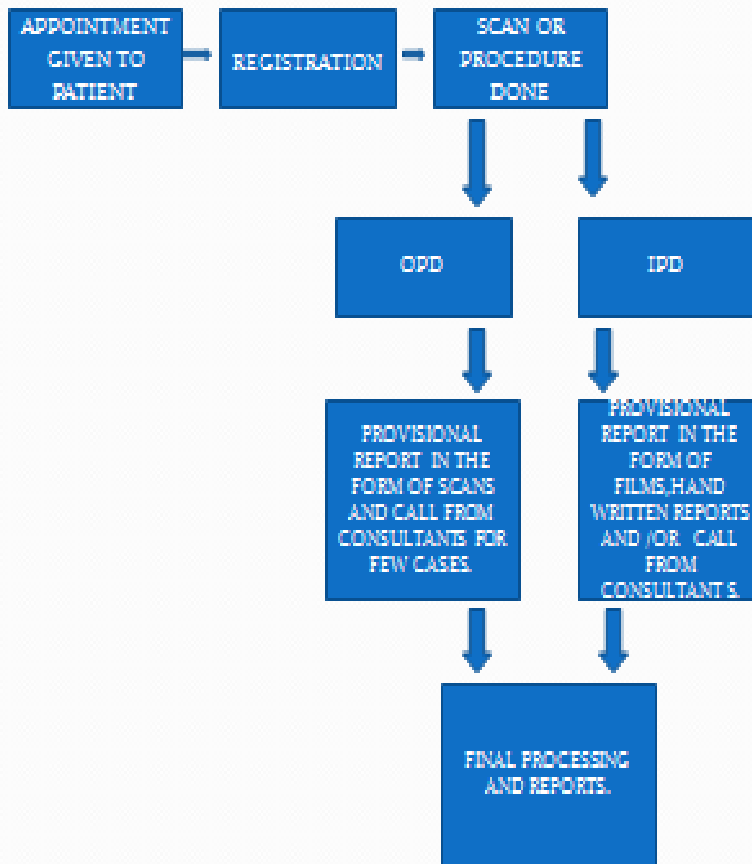
Medical Imaging Services cover investigations of patients that provide imaging information for diagnosis, prevention, and treatment of disease; or assessment of health. It includes conventional radiation based diagnostic radiology as well as a wide variety of specialized techniques including Ultrasound scans, Doppler studies, Bone densitometry, CT, MRI, PETCT, SPECT, Radionuclide imaging and therapy etc.

These services are essential for patient care and therefore must meet the needs of all patient and the clinical personnel responsible for the care of those patients. These services include arrangement for requisition, choice of appropriate (most informative and cost effective) imaging techniques, patient information, patient consent, patient preparation, patient identification, performance of imaging procedures, interpretation, reporting and advice regarding the result, in addition to the consideration of safety and ethics in diagnostic imaging services.

Medical imaging encompasses different imaging modalities and processes to image the human body for diagnostic and treatment purposes and therefore plays an important role in initiatives to improve public health for all population groups. Furthermore, medical imaging is frequently justified in the follow-up of a disease already diagnosed and/or treated.

Medical imaging, especially X-ray based examinations and ultrasonography, is crucial in a variety of medical setting and at all major levels of health care. In public health and preventive medicine as well as in both curative and palliative care, effective decisions depend on correct diagnoses. Though medical/clinical judgment may be sufficient prior to treatment of many conditions, the use of diagnostic imaging services is paramount in confirming, correctly assessing and documenting courses of many diseases as well as in assessing responses to treatment.

PROCESS FLOW



Objectives –

- To monitor the department and track the process flow of CT and MRI.
- To observe the problem areas in the process flow of CT and MRI and suggest efficient ways to improve the problem areas.
- To work for the betterment of the department by observing the loopholes in the department and provide with different options.

Research Methodology –

Study Period – 26th APRIL 2016 to 3rd MAY 2016.

Study Type – observational study

Sampling technique-Convenient method sampling (This method is selected as cases for CT and MRI were considered excluding x-ray and sonography).

Data Collection – Data was collected via direct observation in the Radiology Department for patients coming for MRI/CT.

Data analysis – Done with the aid of MS-Excel sheets. The data was entered in sheets equipment wise and then analyzed with the help of graphs.

Data Analysis and Interpretation –

Data was collected on the following parameters:

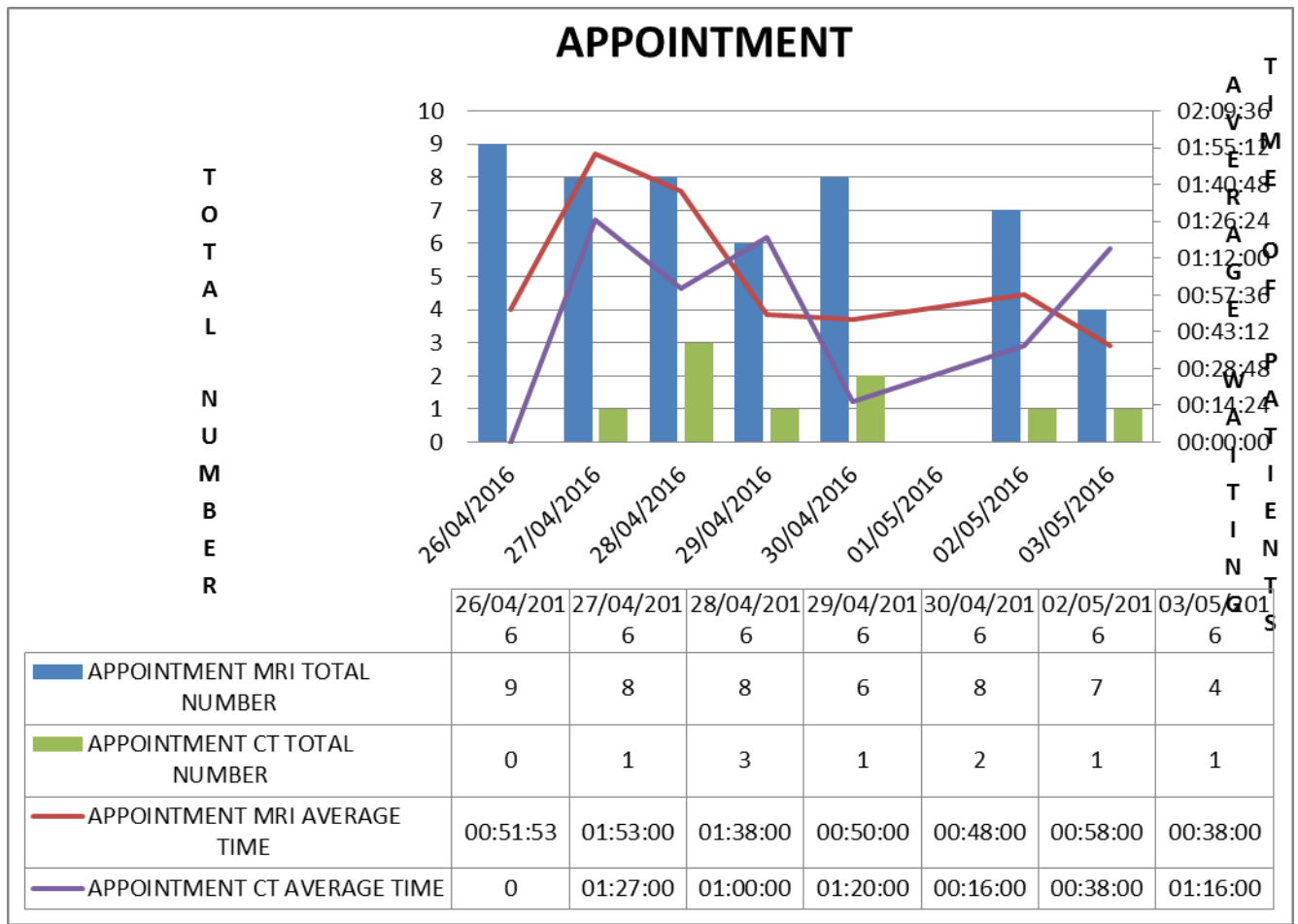
- Time at which appointment was given to the patient.
- Time at which the procedure started.
- Time at which the procedure ended.
- Time at which the final reports of the patient was recorded.

Data was analyzed on the following parameters:

- The average time lapse between the between the scheduled appointments and the actual start of the procedure for both MRI and CT
- The average time taken from start of procedure to final reporting for both MRI and C.

th rd

Tracking of scheduled appointments was done from 26 April to 3 May 2016, calculating the average time lapse between the scheduled appointments and actual start of procedure (CT/MRI)



By calculating the above data and reading the graph it was observed that the average waiting time for patients with prior appointments is quite high with a maximum range of approximately 2 hours and minimum range of approximately 1 hour for MRI cases.

Similarly for CT cases maximum average waiting time for patients was observed to be 1.30 hours and minimum of 1 hour.

On observation certain reasons were reported for the much higher waiting time of patients, which are stated below ;

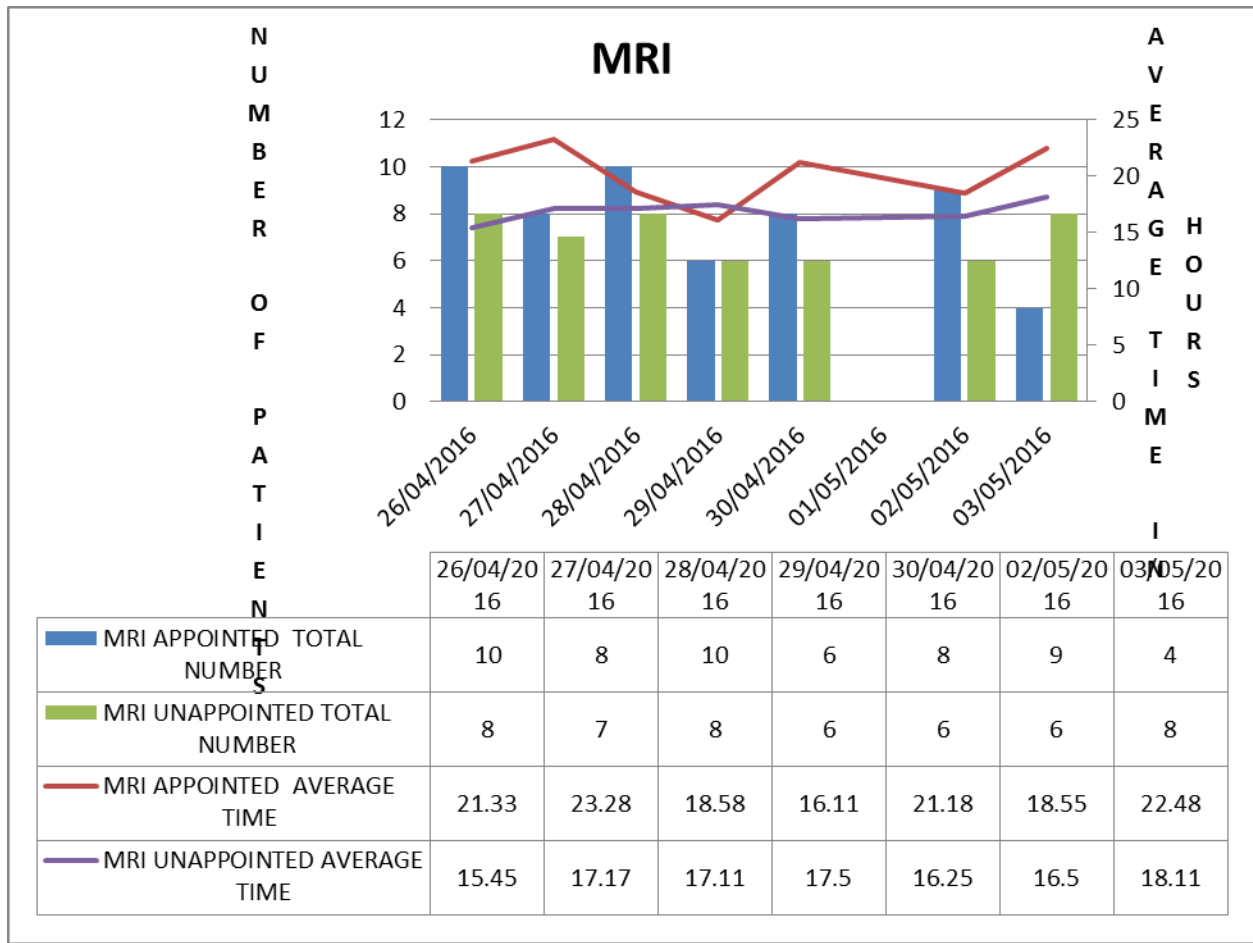
MRI

- 26th APRIL- Patient got late for appointment at 7:00 am leading to further delays of approximately 1 hour.
- 27th APRIL-IPD patient appointment given for 7 A.M ,scan done at 12 P.M leading to delay in OPD patients thereafter.
- 28th APRIL-3 un planned IPD patients taken leading to delays.
- 29th APRIL-Wadia pt. Baby of Pragati was late by one hour for appointment at 2:30 pm .In the same time slot another walk in pt. was taken.
- 30th APRIL-ER patient taken at the appointment time of OPD patient at 3 pm leading to delay.
- 2nd MAY-2 IPD scans done at 5 pm leading to delays.

CT

- 28th APRIL-IPD patients taken in between walk in OPD patients.
- 29th APRIL- ER and IPD patients taken leading to delays.
- Major delays due to patients coming late.

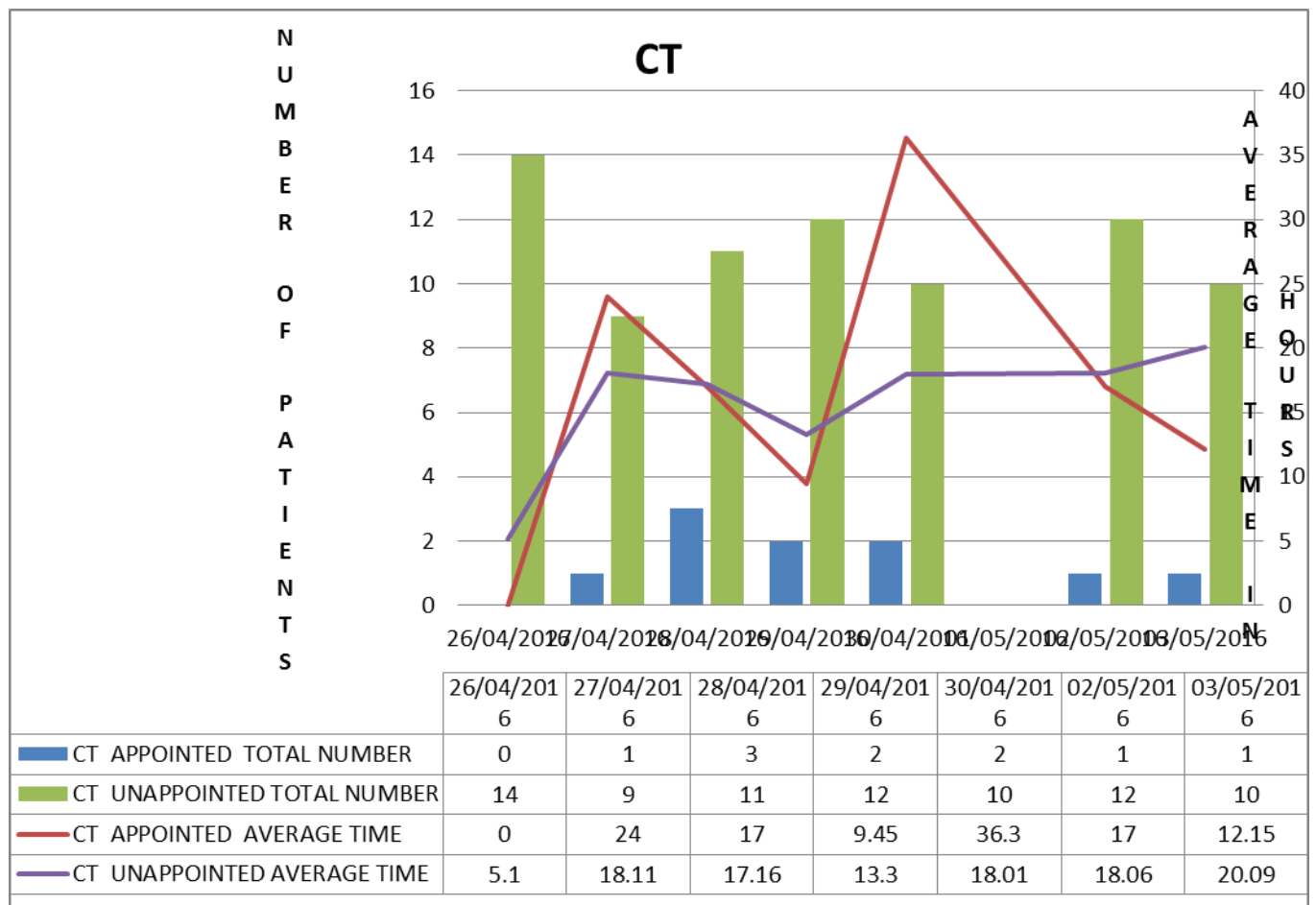
Tracking of total scans (MRI)from 26th April to 3rd May 2016 was done ,calculating the average time from the start of procedure to processing of final reports.



On observing the data, average time calculated for a scan to start until its final reporting is done is 24 hours for MRI scans.

th rd

Tracking of total CT scans from 26 April to 3 May 2016 was done ,calculating the average time from the start of procedure to processing of final reports.



On observing the data, average time calculated for a scan to start until its final reporting is done is 22 hours for CT scans.

Overall observation :

- No differentiation of IPD and OPD appointments on the print option in the scheduling software which leads to confusion in slotting between the MRI and registration desk.
- Scheduling of appointments done from two different places(one from the reception and other from the MRI/CT room) leading to mismanagement.
- Lack of planned appointments from IPD wards (appointments to be confirmed at least a day prior from the wards) leading to delayed scans of patients with appointments.
- No contact with patients prior to appointment so as to plan the day in case the patients wants to cancel the appointments.
- Printing of reports and scans done majorly after 4:00pm due to lack of work stations(for MRI/CT).
- Lack of manpower at registration counter leading to patient inconvenience and delay in dispatch of reports.
- Manual counting of funds at the registration counter leading to errors.
- Female staff in x-ray department called as per requirement.
- No records maintained for dispatch of reports of OPD pt. Records maintained only for patients without bill receipt. OPD patient with bills are given a dispatched stamp on the bill at the time of dispatch.
- More paper work and manual entries due to lack of HIS and PAX up gradation leading to delays and errors in patient demographic information.
- BMD and mammography reports processed on the ground floor leading to delays and patient inconvenience.

Recommendations :

- Proper scheduling of appointments from registration counter is needed with slotting of IPD and OPD patients.
- Morning hours at the registration counter should be dedicated for confirmation of appointments.
- Need of adequate work stations to avoid delays in printing of reports.
- Dedicated staff needed for management and dispatch of printed reports (both IPD and OPD)
- Cash counting machine should be installed at the registration counter.
- Consideration should be given for assigning one female nursing staff for x-ray department.
- Care should be taken for confirmation of dispatch of IPD reports at least thrice a day.
- PAX upgradation is needed.
- Separate work station for processing of BMD reports should be provided .

PROJECT TOPIC-3

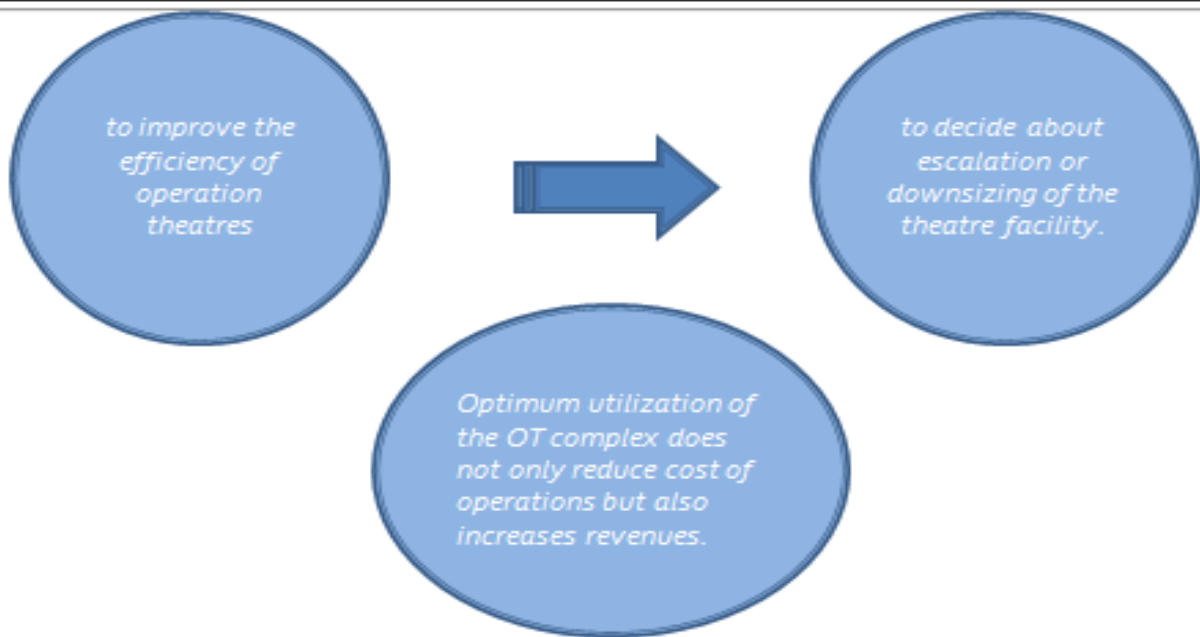
UTILIZATION OF OPERATION THEATRE AND MANPOWER

UTILIZATION

BACKGROUND-

An Operation Theatre (OT) is that specialized facility of the hospital where lifesaving or life improving procedures are carried out on the human body by invasive methods under strict aseptic conditions in a controlled environment by specially trained personnel to promote healing and cure with maximum safety, comfort and economy. In any hospital, The Operation Theatre is said to be the primary source of revenue generation with around 50-60 per cent of revenue earned Just by this area.¹ It is therefore desirable to optimize the efficiency of these assets. The efficiency of operating theatre scan be measured in a variety of ways. Essentially it tends to be defined in terms of ability to translate available time into earnings. Utilization is a simple and adequate measure of the efficiency of a theatre, because its ability to generate revenue (its efficiency) rises as the time for which it is used increases.

WHY IS IT IMPORTANT?



WORKING OF OT COMPLEX



There are 10 Operation theatres in the OT complex.



6 OT's operable.



Working hours of OT₁-OT₆:
8AM to 6PM

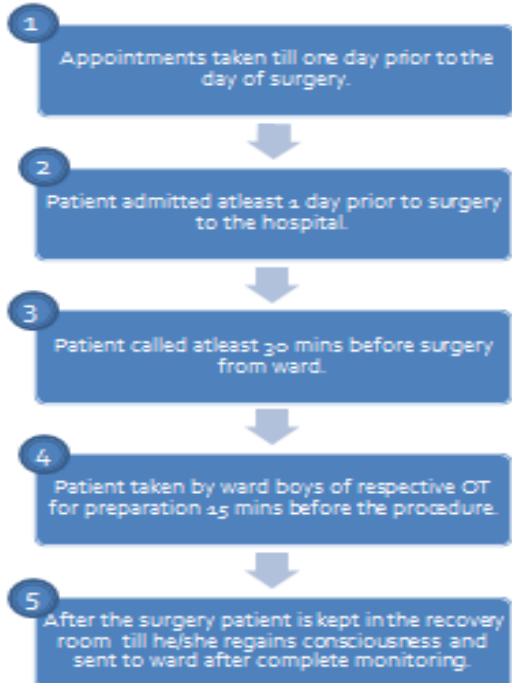


Minimum 15 minutes gap given between 2 surgeries
for cleaning and preparation for next patient.



Sunday : only emergency cases taken (if any)

PROCESS FLOW OF OT



Objectives –

- To find out capacity utilization time and actual utilization time of operation theatres.
- To find out reasons for the gap between the available and actual utilization time in all OT's (if any).
- To suggest measures to improve OT utilization and maximize the utilization of manpower.

Research Methodology –

Area of Study- OT COMPLEX

Study Period – 10 MAY 2016 – 20 MAY 2016 from 8:00 am to 6:00 pm .

Study Type – Observational study

Data Collection – Data was collected via direct observation in the ot complex.

CALCULATING OT UTILIZATION

- Data was collected for all patients having surgeries from 10th may 2016 to 20th may 2016 in OT 1 to OT 6 .
- This included the type of surgery ,scheduled date and time of surgery and wheel in (entry) and wheel out time of the patient in the respective OT.
- This data was then compiled and OT utilization per OT per day was calculated in the form of percentage.

PERCENTAGE UTILIZATION OF OT 1-OT6

$$\frac{\text{TOTAL HOURS UTILIZED PER OT IN A DAY}}{\text{TOTAL WORKING HOURS AVAILABLE IN A DAY}} \times 100$$

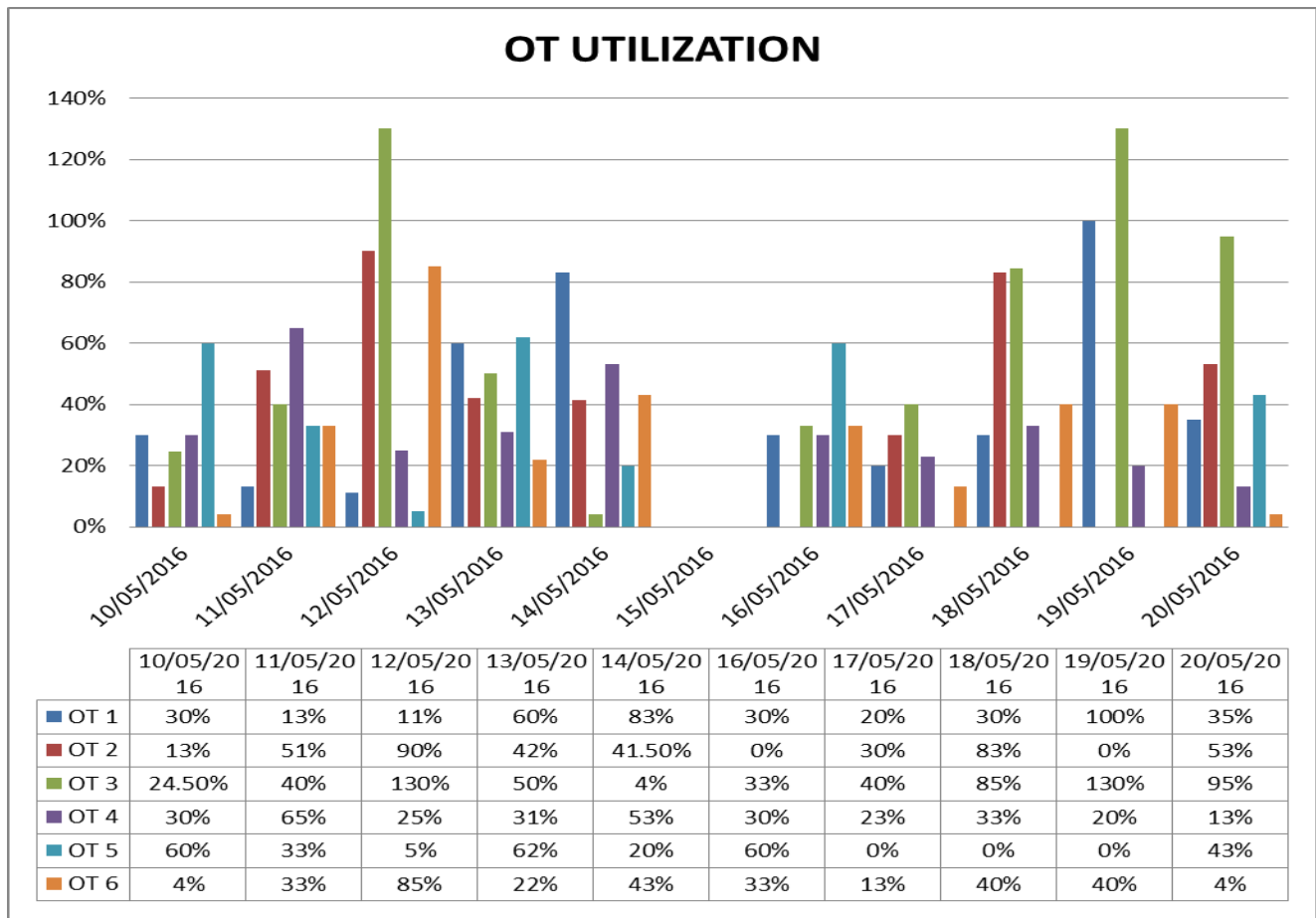
Data analysis – Done with the aid of MS-Excel sheets. The data was entered in sheets equipment wise and then analyzed with the help of graphs.

Data Analysis and Interpretation –

Data was collected on the following parameters :

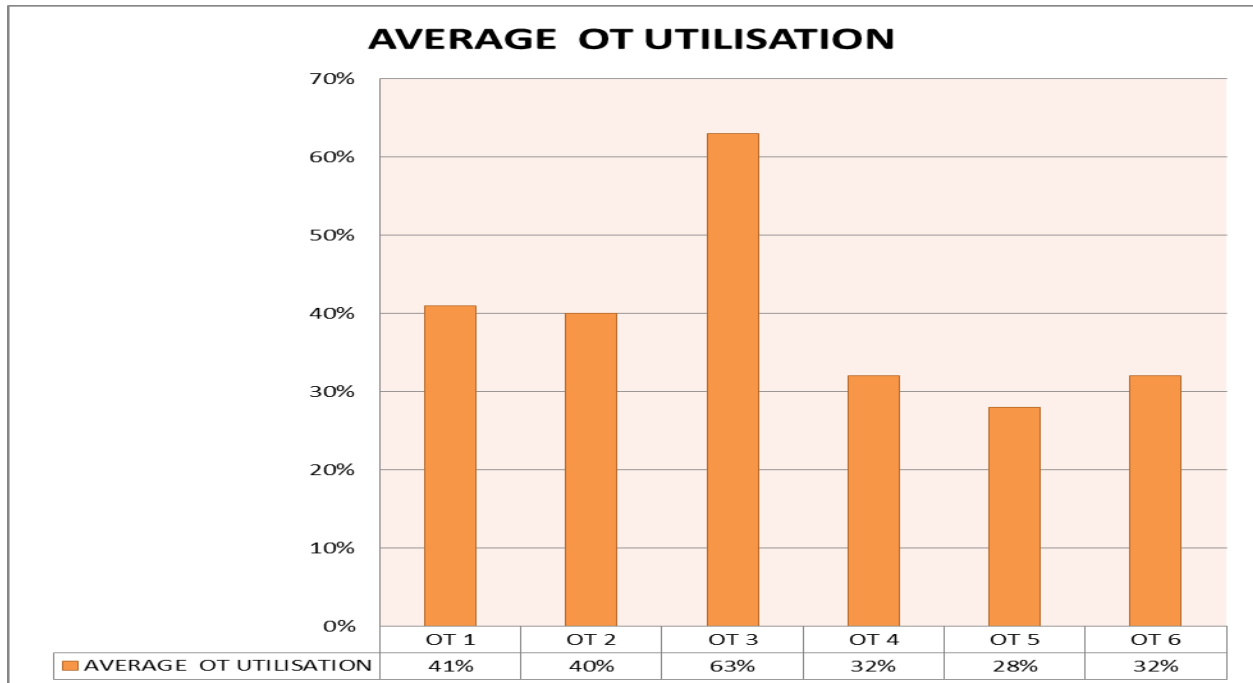
- Surgeries were listed for each day during the study period.
- Scheduled time for each surgery was noted
- Actual wheel in and wheel out time for each surgery was tracked and noted,
- Number of anesthetist and technicians utilized in each OT on each day were noted.

AVERAGE PERCENTAGE UTILIZATION OF EACH OT FROM 10TH MAY TO 20 TH MAY 2016 BETWEEN 8:00 A.M TO 6:00 P.M



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Average utilization of each OPERATION THEATRE (OT1 to OT6) from 10th may 2016 to 20th may 2016 was calculated and plotted

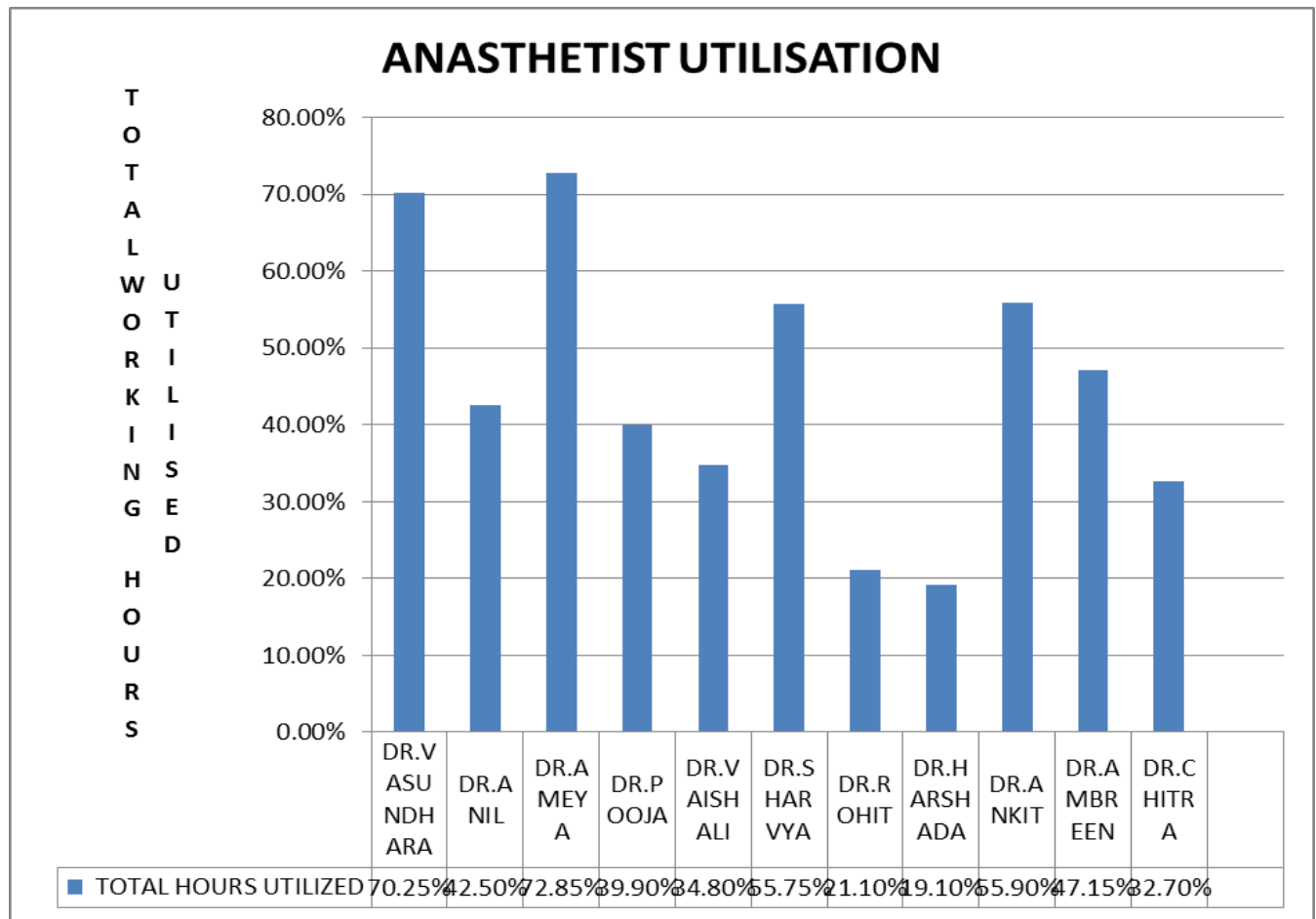


ON OBSERVING :

- Total surgery hours: 600hrs
- Utilized hours :236.75
- Utilization:0.394 i.e. 39%
- Total surgeries conducted : 75
- **OT 1, OT2, OT3 majorly used for liver and kidney transplants.OT3 has the maximum utilization of 63% as it majorly conducts liver recipient surgeries .**
- **OT4 and OT5 used for orthopedic and laparoscopic cases. OT5 has the minimum utilization of 28% as it is especially designed to regulate temperature and humidity for special cases like TKR.**
- **OT6 with an average utilization of 32% is used majorly for infectious cases.**

ANESTHETIST UTILIZATION

- Total no. of anesthetist available:12
- Per day no. of anesthetist required was calculated from the assimilated data and plotted in a graph.

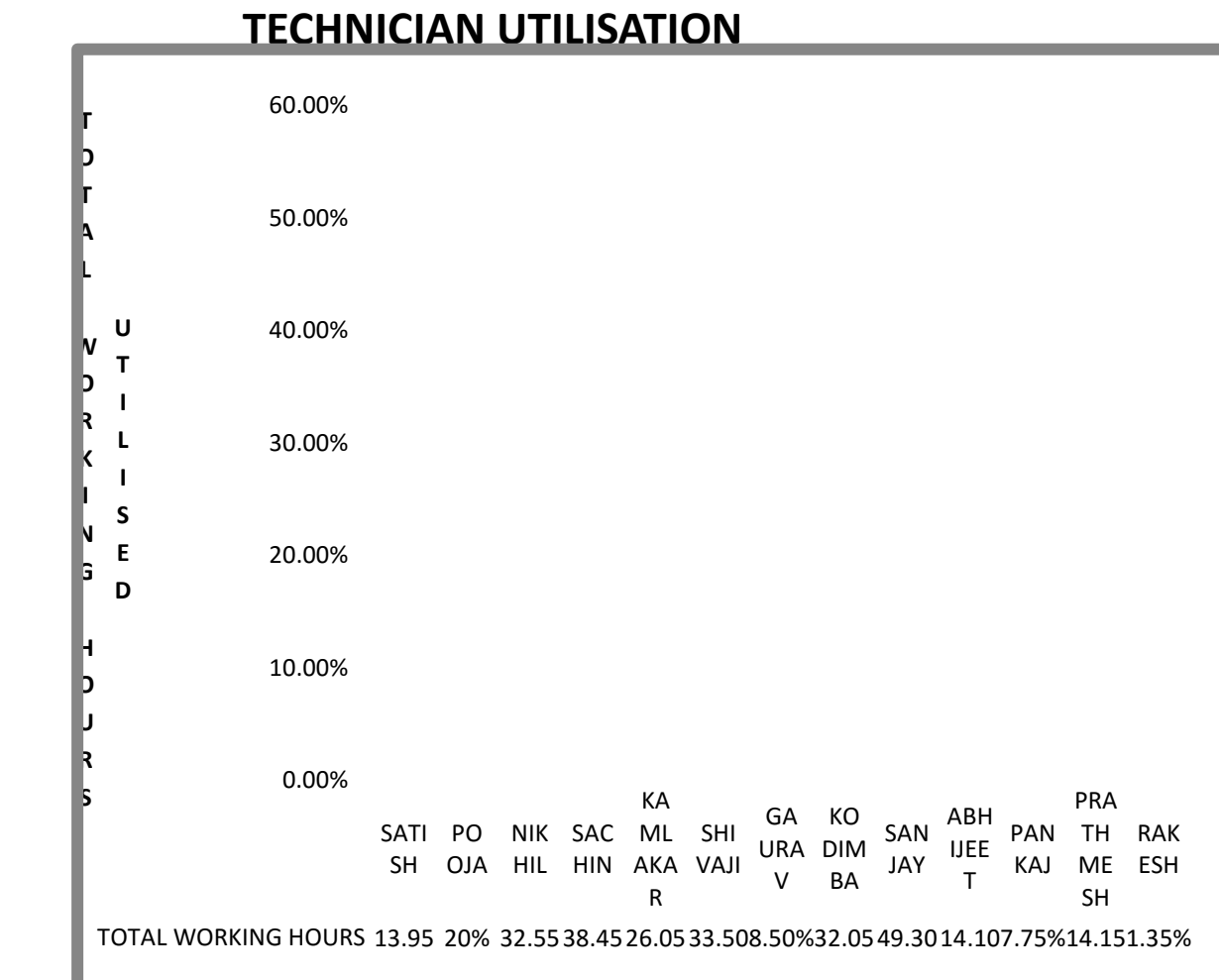


It was observed that maximum working hour that were utilized were calculated as 72.85% and minimum working hours that were utilized were calculated as 19.10%.

The maximum utilization was observed in cases having longer duration of surgery hours like liver transplant surgeries while minimum utilization were observed in simple cases like I&D ,Laprosopies,Stent removal surgeries etc.

TECHNICIANS UTILIZATION

- Total no. of Technicians available:13
- Per day no. of technicians required was calculated from the assimilated data and plotted in a graph.



It was observed that the maximum working hours that were utilized by any technician during the study period was calculated as 49.30% and minimum working hours that were utilized were calculated as 1.35%

Overall observation :

- Highest utilization seen of OT3 as it is majorly dedicated for transplant recipient surgeries which takes 15-18 hours.
- Lowest utilization seen of ot5 due to its special environmental conditions produced for specific surgeries
- Average utilization of OT complex is 39%

Limitations of the Study

- Study was conducted in working hours of 8: am to 6:00 pm excluding weekends.
- Restricted sample size as patient from emergency was not included.
- Recommendations are based on the short study conducted for a week due to time constraints.
- Due to the limitations of study it is suggested that implementations should be done only after a complete long-term study of the department.

Recommendations :

- Due to less utilization of operation theatre hours it is suggested that working of OT hours can be reduced.
- Average utilization of anesthetist of below 50% i.e. 44.43% suggests that a few anesthetists can be employed dedicatedly to other departments.
- Average utilization of technicians is observed to be less i.e. 22.44%. Which suggest that equal division of work should be done and if the utilization rate persists the same for long then number of technicians should be reduced.

PROJECT TOPIC-4

INVENTORY MANAGEMENT OF HIGH CONSUMPTION MID VALUE DRUG.

BACKGROUND-

In pharmacy operations, inventory is referred to as the stock of pharmaceutical products retained to meet future demand. Inventory represents the largest asset in pharmacy practice and its value continues to rise because of the growth in variety and cost of pharmaceutical products. From both financial and Operational perspectives, efficient inventory management plays a great role in pharmacy practice. Inventory management aims at reducing procurement and carrying costs, while maintaining an effective stock of products to satisfy customer and prescriber demands.

Why Is It Important?

Among the essential eight roles of the pharmacist that are described by the World Health Organization and the International Pharmaceutical Federation, managing resources (money, material, manpower, time, and information) is a key factor to professional success on individual level, as well as organizational level. In pharmacy operations, inventory is referred to the stock of pharmaceutical products retained to meet future demand. Inventory represents the largest current asset, as well as liquid asset in pharmacy practice and its value continues to rise because of the growth in variety and cost of pharmaceutical products. From both financial and operational perspectives, efficient inventory management plays a great role in pharmacy practice. From financial viewpoint, efficient inventory management enhances gross profits and net profits by reducing the cost of procured pharmaceutical products and associated operational expenses. In addition, cash flow will improve upon saving on purchasing and storing less costly products. Such cash flow can be used to pay operational expenses and invest in other services. From operational viewpoint, effective inventory management ensures meeting customer and patient demands. Unavailability of a product when needed may cause the community pharmacy to lose a customer and predisposes inconvenience to the prescribing physician; and may adversely affect patient's wellbeing in hospital pharmacy settings, especially when the product is an essential lifesaving one.

OBJECTIVE

- ✕ To do a retrospective study of the pharmacy inventory and observe the current management of the inventory of a high consumption mid value drug.
- ✕ To collect data for the month of April to evaluate the categories of drugs and analyze HIGH CONSUMPTION MID VALUE DRUG.

DATA COLLECTION & METHODOLOGY

Data Collection:

The procedure followed is enumerated below:

- i. The study was performed on previously compiled data by GLOAL HOSPITAL,MUMBAI.
- ii. The study was done for the month of April.

Methodology:

Study Type – Retrospective study.

Sampling method – Convenient sampling method

Study Technique – Observation.

Study Tool – Previously compiled Data on inventory control of a high consumption mid value drug for the month of April 2016.

Data analysis – Done with the aid of MS-Excel sheets. The data was entered in sheets equipment wise and then analyzed .

Ethical Considerations- The confidentiality of the data given by MSSH was maintained.

DATA ANALYSIS AND INTERPRETATION :

ABC ANALYSIS OF DRUGS

- ✖ This system gives the analysis of store items mainly drugs based on their cost in material management.
 - ✖ In this system items are classified in to three groups.
 - ✖ From the list of drugs showing expenditure incurred in previous data is prepared.
 - ✖ Then the drugs are arranged in descending order of the amount of expenditure.
 - ✖ The cumulative cost is then calculated from the first item in the list.
 - ✖ When the cost is found out ,10% of the items consume 70% of the budget , these are GROUP A items.
 - ✖ GROUP B items form about 20% of the items and consume 20% of the budget.
 - ✖ GROUP C items consist of remaining 70% of the items and consume 10% of the budget.
 - ✖ Thus category A should get high priority and managerial attention and their stock and purchase are carefully monitored.
 - ✖ In the system orders are placed when the stock of the item reaches a pre-determined level.
 - ✖ For fixing this pre-determined level information on following is essential.
1. LEAD TIME
 2. MINIMUM ORDER LEVEL
 3. BUFFER STOCK
 4. REORDER LEVEL

LEAD TIME-This is average interval between placement of order of item and actual receipt of material for use.

MINIMUM ORDER LEVEL-This is quantity of material derived by calculating average daily consumption of material multiplied by total lead time.

BUFFER STOCK-In addition to the minimum order level , something in extra is needed to meet out any extingency.

Calculated by-

$$BS = (\text{MAXIMUM DAILY CONSUMPTION} - \text{AVERAGE DAILY CONSUMPTION}) * \text{LEAD TIME}$$

REORDER LEVEL-This is the point where order is placed for procurement for replenishing the stock derived by-

$$\text{MINIMUM ORDER LEVEL} + \text{BUFFER STOCK}$$

After data collection and analysis a high consumption mid value drug was chosen i.e PANSEC 40mg INJ and the reorder level of the same was calculated.

CALCULATION FOR REORDER LEVEL FOR PANSEC 40 mg INJ

- ✗ **HIGH CONSUMPTION MID VALUE DRUG-PANSEC 40 MG INJ.**
- ✗ **TOTAL NO OF PATIENTS =644.**
- ✗ **TOTAL QUANTITY USED OF PANSEC IN APRIL=2537 injections.**
- ✗ **TOTAL NO OF DAYS=30.**

- ✗ AVERAGE DAILY CONSUMPTION= TOTAL QUANTITY
USED/TOTAL NUMBER OF DAYS= $2537/30=85$
- ✗ PANSEC USED PER PATIENT=TOTAL QUANTITY
USED/TOTAL PATIENT = $2537/644 =4$
- ✗ AVERAGE PATIENT PER DAY=25
- ✗ MAXIMUM DAILY USAGE= USAGE PER
PATIENT*AVERAGE PATIENT PER DAY

 $=25*4=100$

From the above observational study REORDER LEVEL of PANSEC 40 mg INJ is calculated to be 400 for the month of APRIL.

In Global Hospital the same is calculated for three months together to prevent stock outs and frequent reorders.

CONCLUSION-

The reorder level in Global Hospital for PANSEC 40 mg INJ is 500 which is approximately similar to the reorder level of 400 which was calculated by using a month data which signifies that the study that was conducted gives equivalent results showing the reorder level which was calculated was correct.

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