

SUMMER TRAINING REPORT

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Submitted by:

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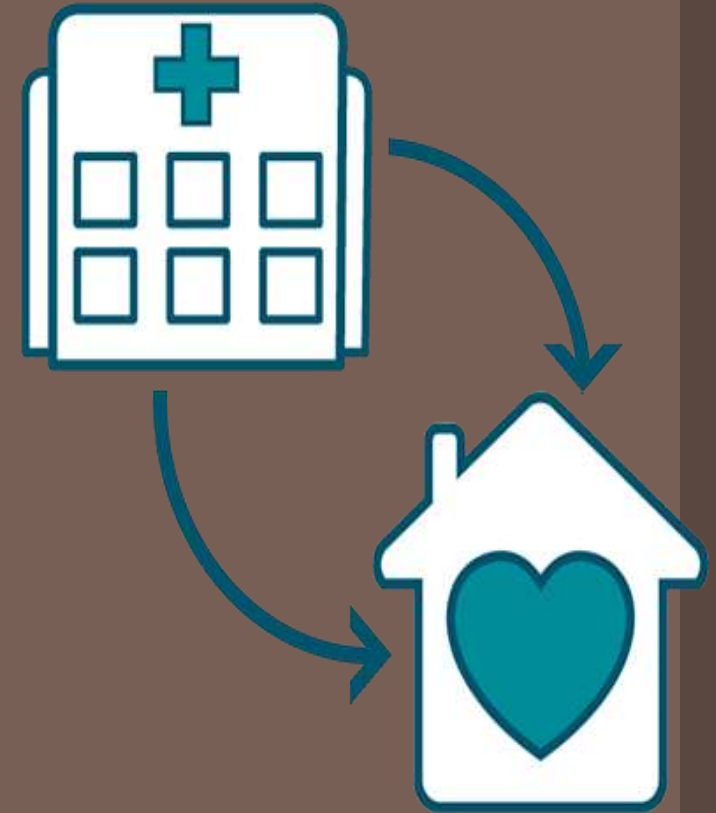
IIHMR University, Jaipur

OBSERVATIONAL LEARNING

- The Calcutta Medical Research Institute is a centrally located multi-specialty hospital in Kolkata. The 440 bedded hospital with state-of-the-art infrastructure is recognized for its unique quality healthcare service delivery. The flagship hospital of the CK Birla Group of Hospitals is an ISO 9001:2008 certified hospital accredited by the NABH and NABL.
- The OPD of this hospital is divided into ground and first floors. The hospital receives walk-in patients as well as patients with prior appointments. Appointment can be booked on call or through hospital's website. There are a total of 16 consultation chambers on the first floor. The OPD timings are from 8am to 8pm. The reception has 5 front desks. The average number of OPDs per day in the hospital is 400.
- The hospital staff facilitates in smooth operation of the admission process. Patients advised to get admitted in the hospital are required to go to the admission desk, located on the ground floor for the process to be initiated. The patients received can be from OPD, Emergency ward, those advised to undergo surgery, or transferred from another hospital.
- CMRI provides a broad range of various pharmaceutical products, disposable, surgical, nutritional supplements, lifesaving, and general healthcare products. Stringent quality control is ensured such that medicines are updated regularly and are of best quality. The hospital has 1 outpatient pharmacy and 1 inpatient pharmacy.
- The Department of trauma and emergency care of CMRI located at the ground floor treats all life-threatening crises like strokes or fractures with same care. A system of triage is maintained to determine which category of patients is to be attended immediately.

PROJECT REPORT 1

❑ Study on the Efficiency of Discharge Process at The Calcutta Medical Research Institute

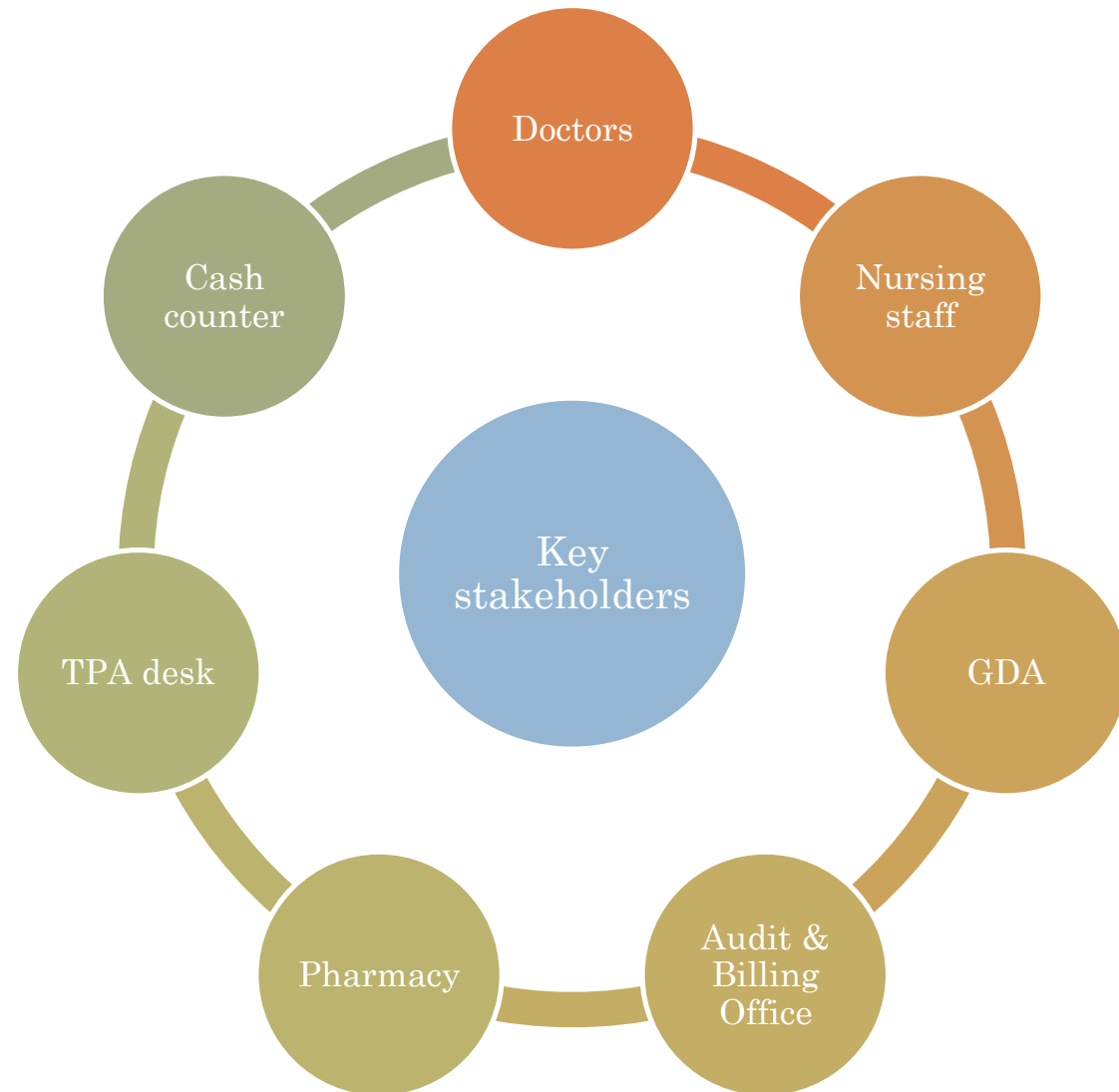


INTRODUCTION

- According to NABH, “the **discharge process** is defined as a procedure by which a patient is shifted out from the hospital with all concerned medical summaries ensuring stability. The discharge process is deemed to have started when the consultant formally approves discharge and ends with the patient leaving the clinical unit.”
- Discharge process is a complex, lengthy procedure that involves the relieving of patient from a hospital setting who is no longer requires inpatient care and can be sent to home with proper instructions and medications. Types of discharge- planned, unplanned, LAMA/DAMA.
- It is a transition phase where an episode of treatment delivered to a patient by the health professionals and health care is formally concluded.
- **Turnaround time** in the context of discharge process can be defined as the time period beginning from the approval of discharge by the consultant till the patient leaves the clinical unit. It is calculated for a hospital to rule out the factors causing delay in the process.

AIMS AND OBJECTIVES

- To study the process flow of discharge procedure
- To identify causes of delay in discharge process
- To suggest measures to reduce the TAT of discharge process

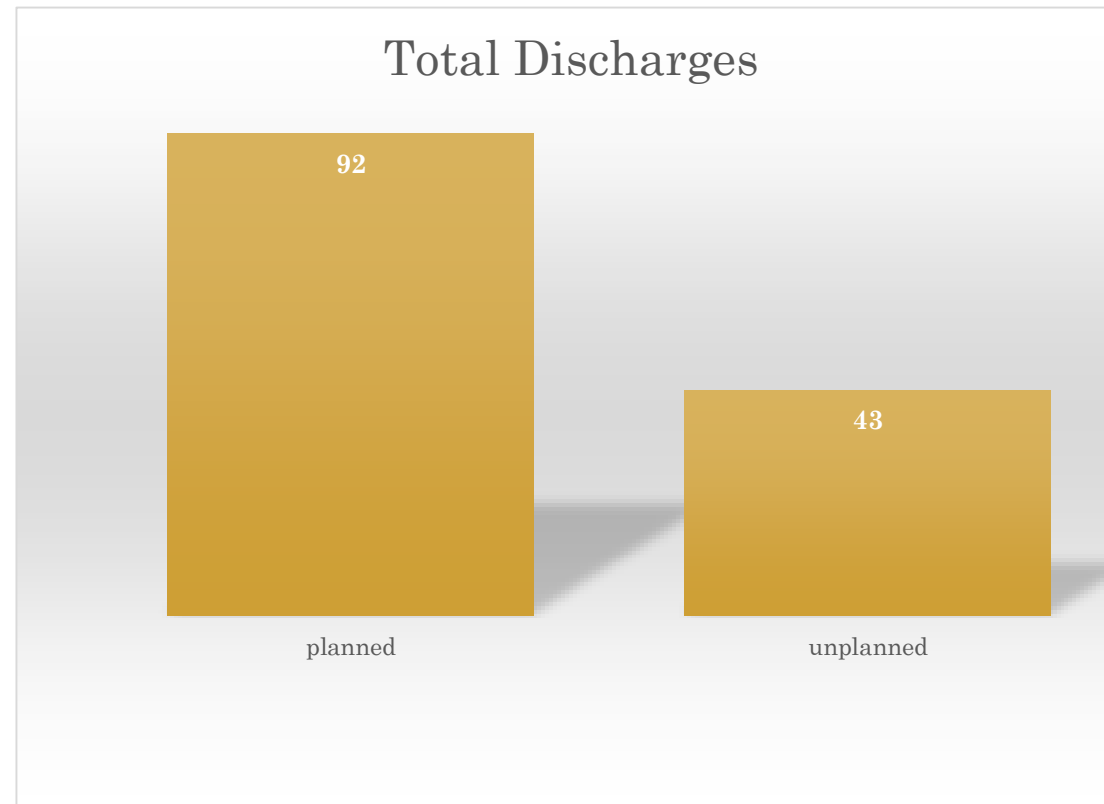


RESEARCH METHODOLOGY

- Study area- Inpatient wards (IP floors- 3rd, 4th, 5th, 6th, 7th) of CMRI, Kolkata
- Study design- Descriptive Cross-sectional study
- Duration of study- 5 weeks
- Sampling method- Convenience sampling
- Sample size- 136 patients (including cash, TPA, Govt/PSU)
- Data type- Quantitative
- Inclusion criteria- Cash and TPA patients of 3rd, 4th, 5th, 6th, 7th IP wards
- Exclusion criteria- Day care patients, patients admitted in ICU
- Source of data- Primary, Secondary
- Data Analysis- Analyzed using MS Excel and presented graphically (through pie charts, bar graphs)

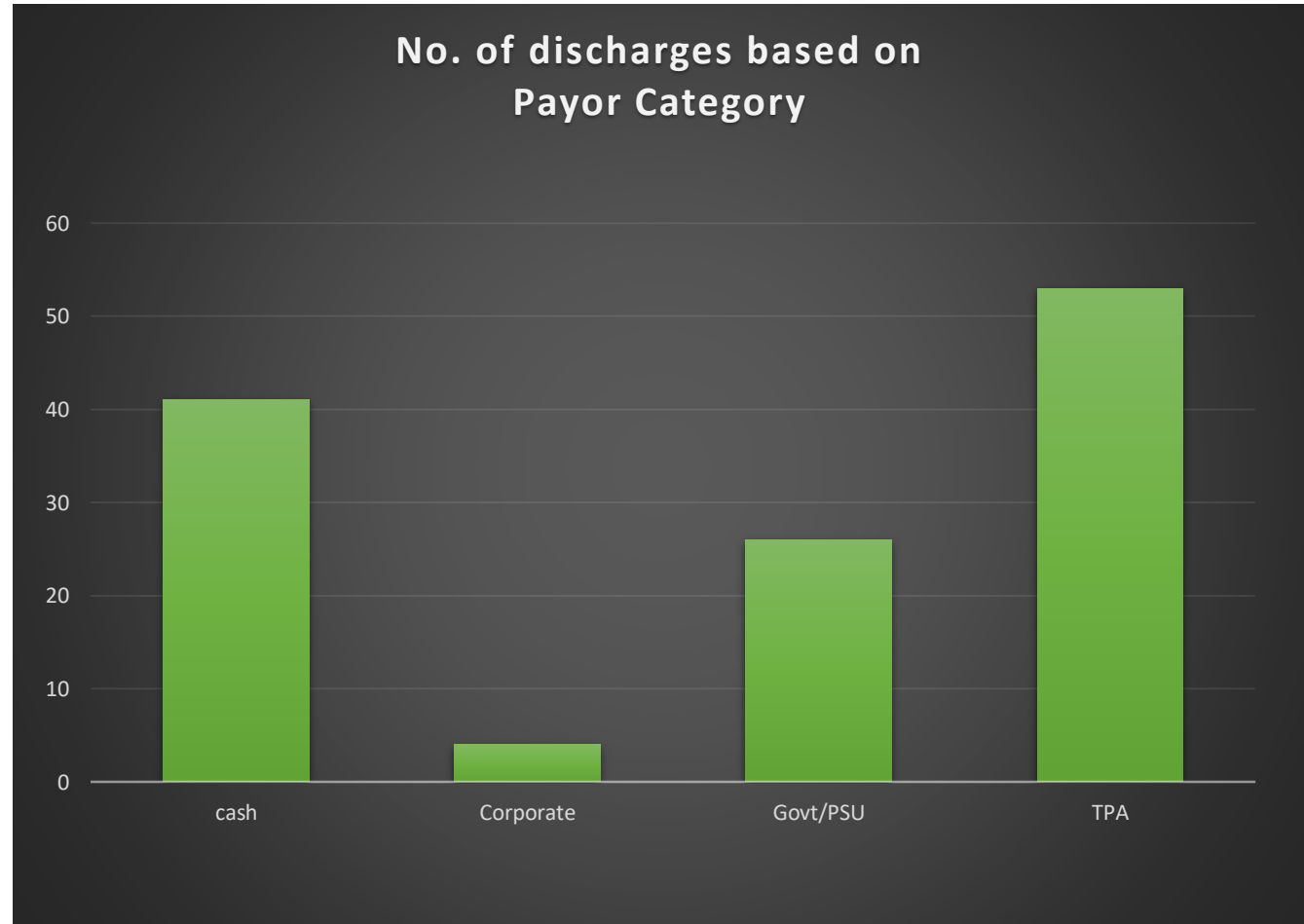
NUMBER OF PLANNED AND UNPLANNED DISCHARGES

Interpretation: The chart shows that out of 136 discharges, 67.6% discharges were planned whereas 31.6% of the discharges were unplanned.



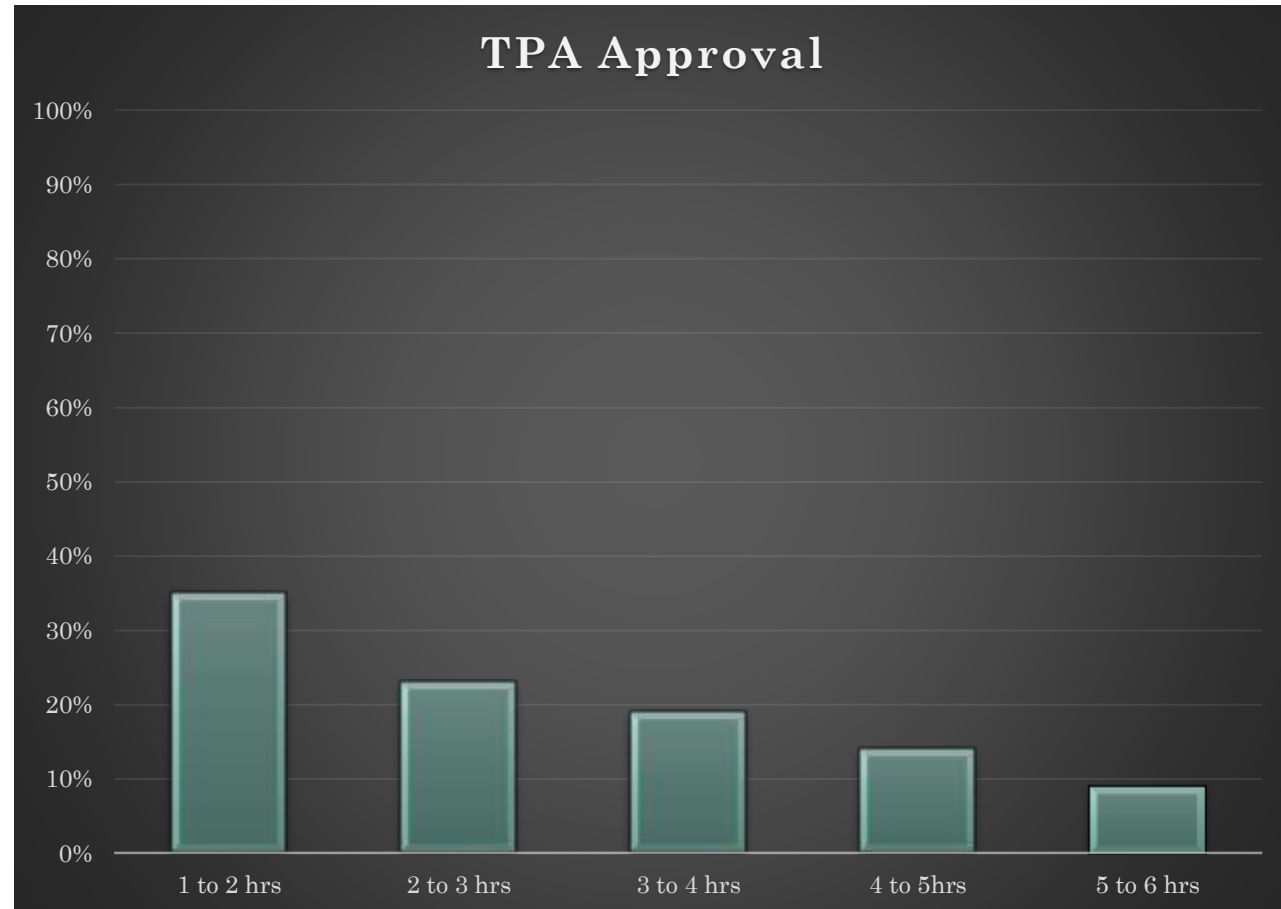
DISCHARGES BASED ON PAYOR CATEGORY

Interpretation: The chart shows that out of 136 discharges, 32.35% made payment in cash, 44.11% through TPA. The rest of 17.7% were corporate patients and 5.9% fell under the category of Govt/PSU.



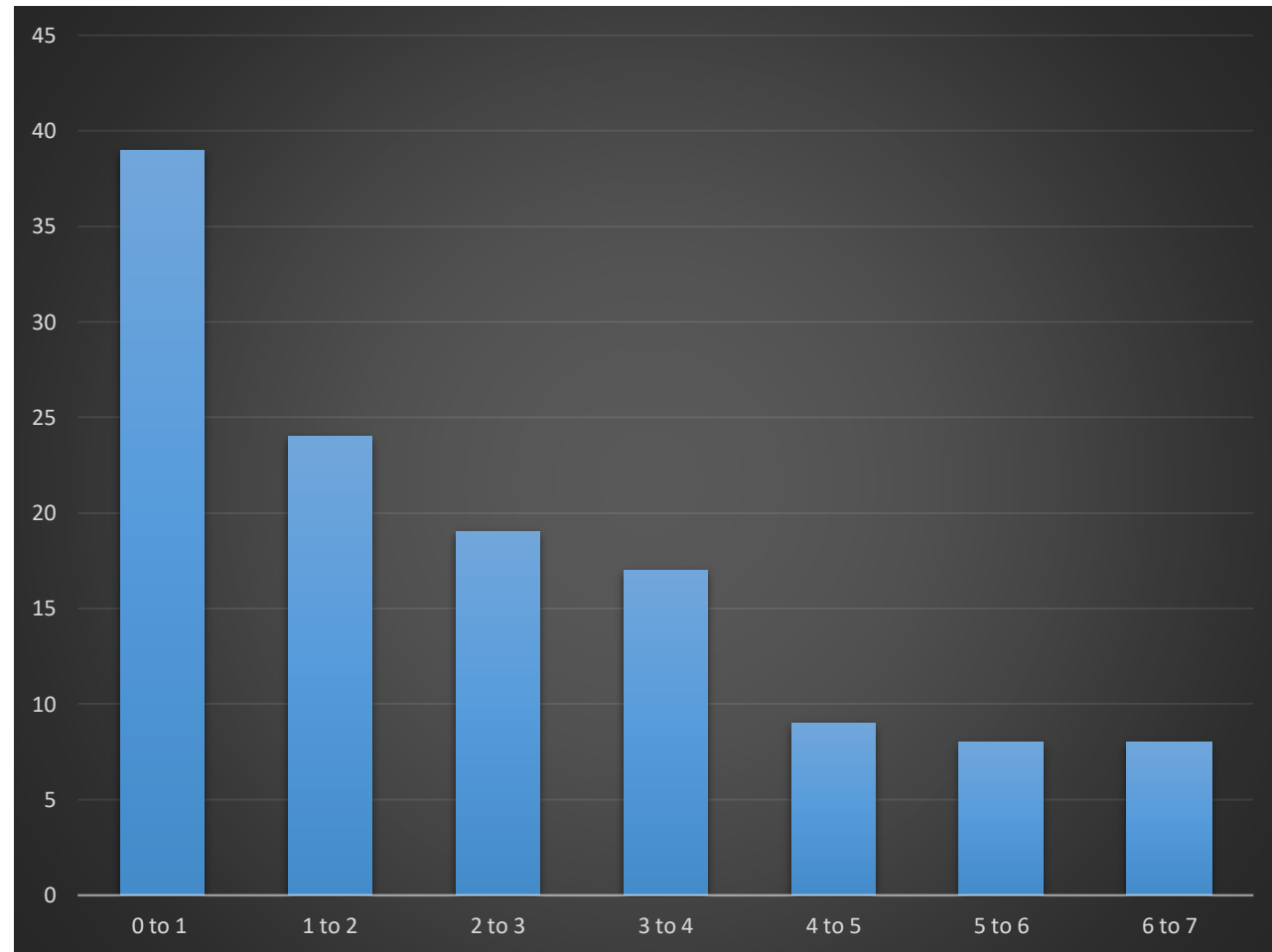
TIME TAKEN FOR TPA APPROVAL

Interpretation: The time taken for TPA Approval was 1-2hrs for 35% of the patients, 2 to 3hrs for 23% patients, 3-4hours for 19% patients, 4-5hrs for 14% patients and 5-6% for 9% of the patients.



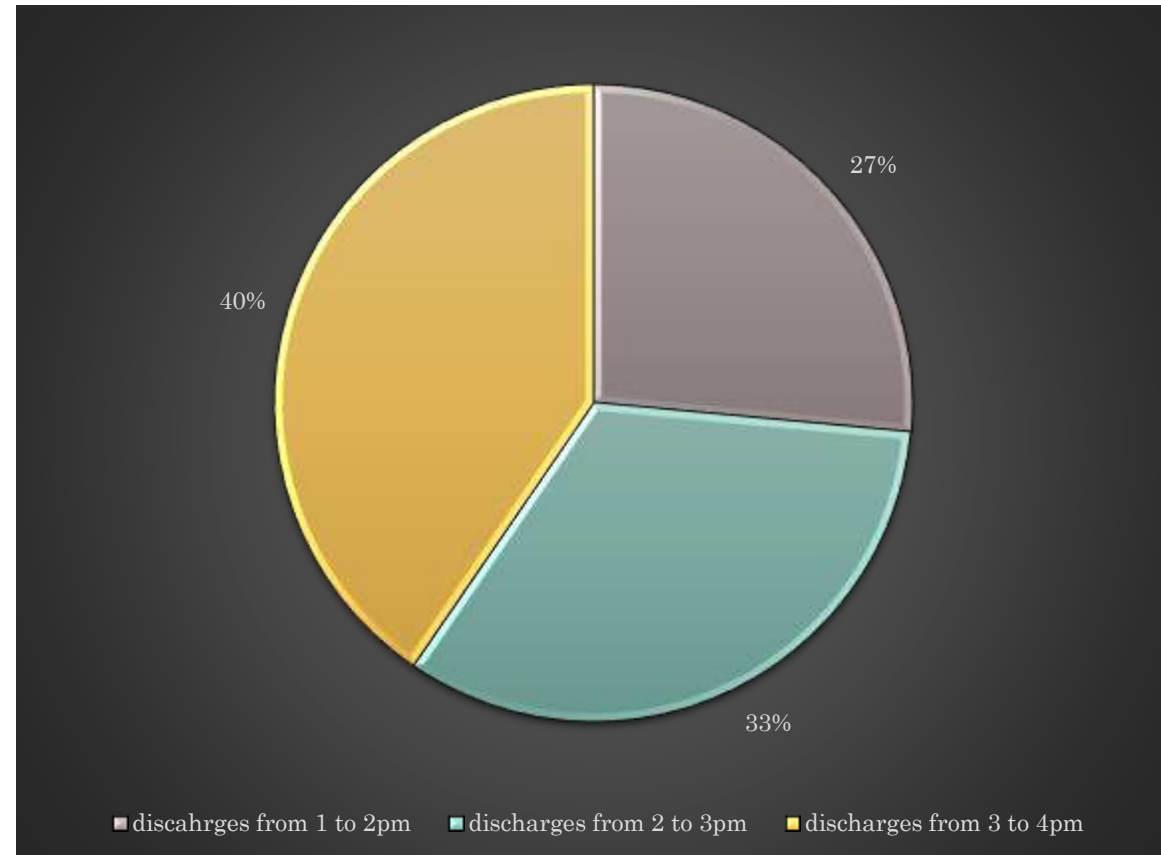
TIME TAKEN FROM AUDIT TILL FINAL BILL CLEARANCE

Interpretation: The chart shows that it took less than 1 hour time for final bill clearance after Audit and Billing for 39% cases, 1 to 2 hours for 24% cases, 2 to 3 hours for 19% cases, 3 to 4 hours for 17% cases, 4 to 5 hours for 9% cases and more than 6 hours for 8% of the cases.



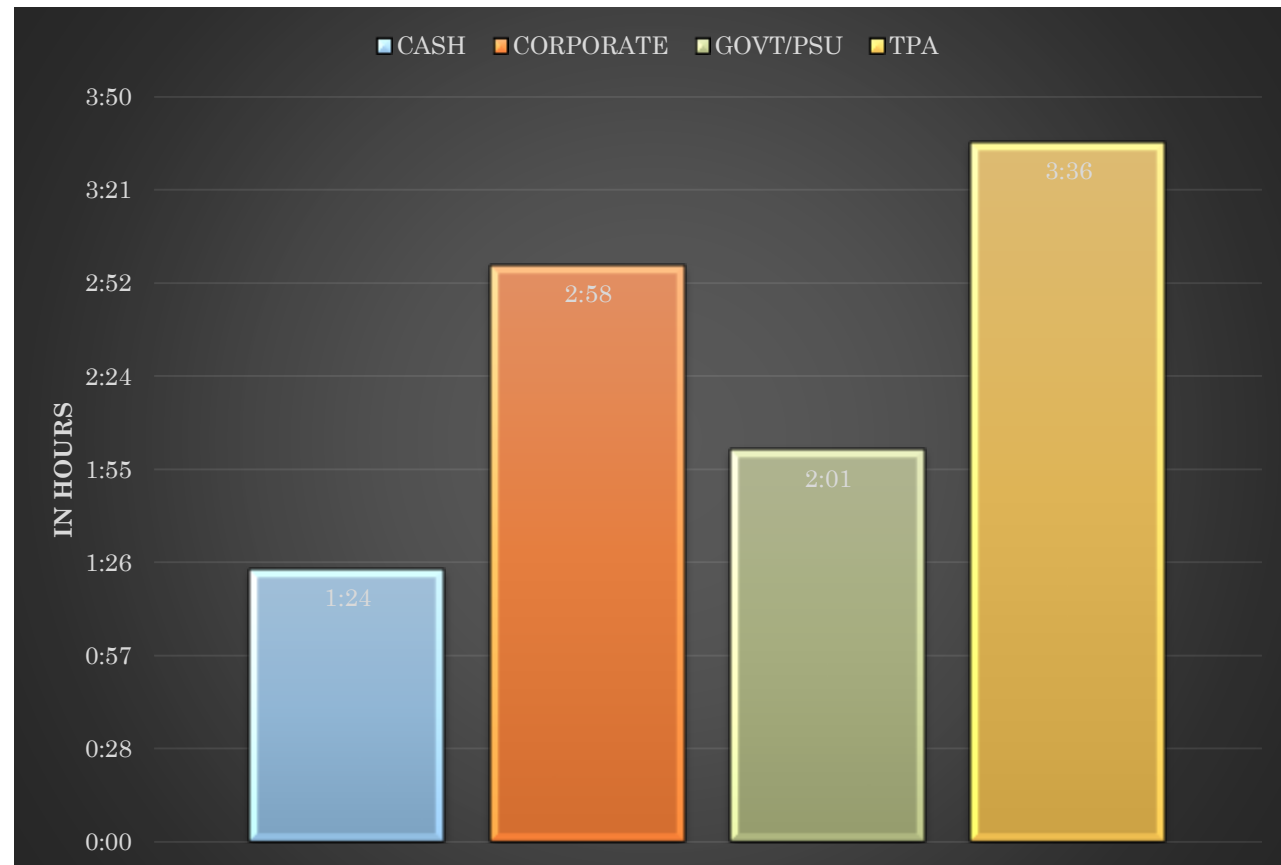
DISCHARGE TIMINGS

Interpretation: The chart shows that 40.4% of the discharges took place from 1 to 2pm, 33.1% discharges from 2 to 3pm and 26.5% of the discharges from 3 to 4pm and beyond.



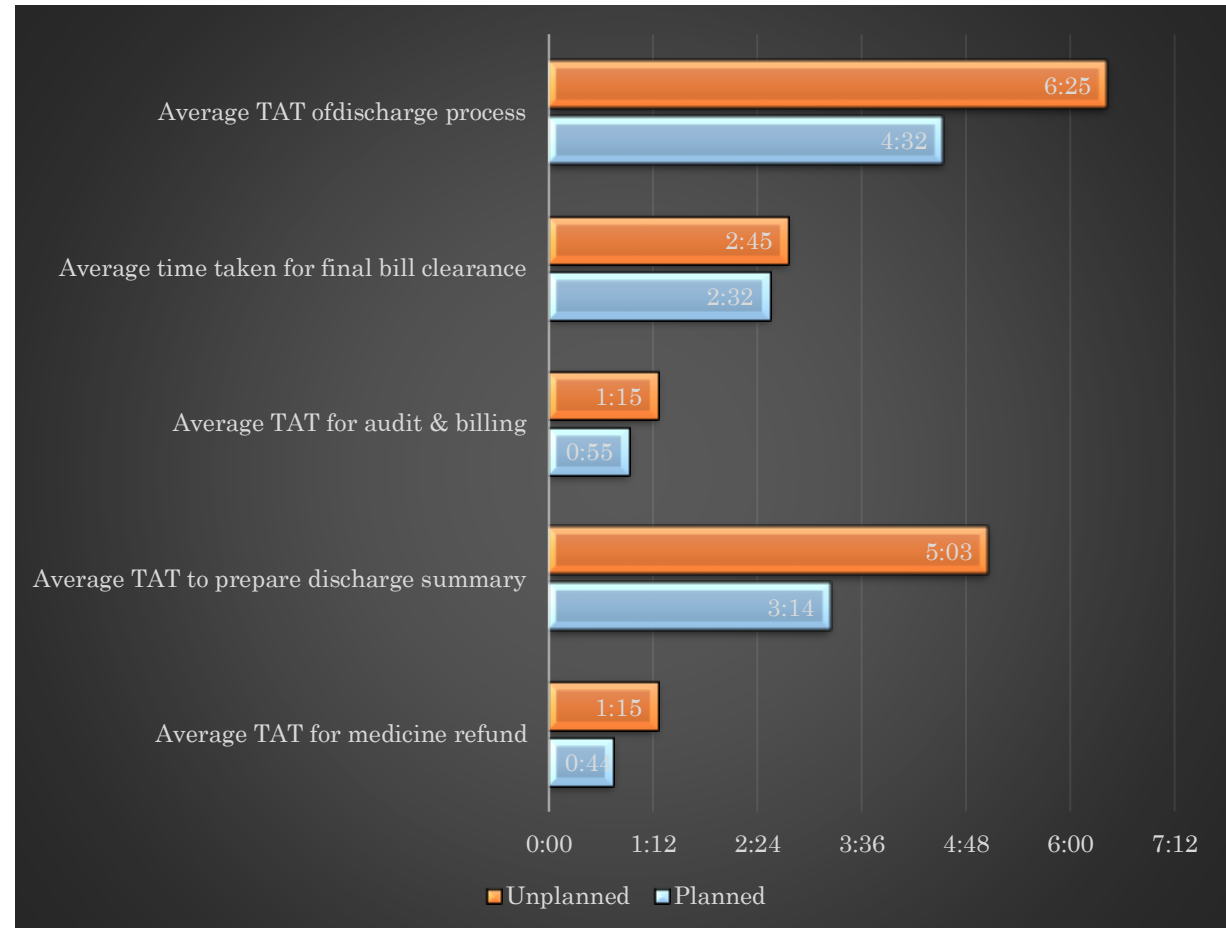
TIME TAKEN FOR FINAL BILL CLEARANCE based on Payor category

Interpretation: The chart shows that the average time taken for final bill clearance is 1hour 24 minutes for cash patients, 2 hours 58 minutes for corporate patients, 2 hours and 1 minute for Govt/PSU patients and 3 hours and 36 minutes for TPA patients. Thus, it can be inferred that maximum time for bill clearance is faced by TPA patients



PLANNED Vs UNPLANNED DISCHARGES

Interpretation: The chart shows that the average TAT of discharge process for planned discharges is 4 hours 32 minutes and 6 hours 25 minutes for unplanned discharges. However, in both the cases the TAT exceeded the benchmark time of 180 mins.



OBSERVATIONS

- By analyzing the collected data, it has been observed that the average TAT for planned cash patients was 228 minutes and for unplanned cash patients it was 280 minutes. The average TAT for planned TPA patients was 300 minutes and that for unplanned TPA patients was 440 minutes.
- Discharge summaries were not prepared on time. Consultants took excessive time to finalize the summaries. The frequency of corrections of the summaries is also of much concern. Many of the discharge summaries were sent for correction thrice which must have contributed to delaying TAT of discharge process.
- After round discharge' cases are delayed the most in the hospital. It is because the round timings of the consultants are not fixed. The consultants coming after 12 pm are responsible for delaying the discharge process leading to increased TAT and patient dissatisfaction.
- The hospital runs on GDA dependent system. This factor is of high importance as most of the steps of discharge process are associated with GDA. It was observed that the GDAs were not available on time to carry out various steps of the discharge process.
- The Audit department faces IT challenges frequently. Due to slow working of the software, the workflow of the department is hampered. GDAs are also not available to carry the discharge files back to the respective wards.

RECOMMENDATIONS

- ✓ The round timing for consultants must be fixed from 8 to 10 AM.
- ✓ Unplanned discharges must be reduced to minimum to avoid the risk of readmission of the patients with same diagnosis.
- ✓ A discharge tracking queue can be used through HIS to track the discharge process of all the patients. Any of the cases taking more time or exceeding the average TAT can be displayed in the system with a 'discharge alert'.
- ✓ A dedicated team of service care coordinators can be given the responsibility to monitor the discharge process. Delays or conflicts can be resolved by the team in coordination with all the stakeholders of the discharge process.
- ✓ All the pending reports, investigations, services, and the documents required for billing must be prepared a day before discharge to avoid unnecessary delay.
- ✓ Feedback related to the experience of discharge process must be taken from the patients. Their pain areas must be asked. Working on such deficient areas will improve both patient satisfaction as well as efficiency of the discharge process.
- ✓ Refund of medicines must be initiated a day before the discharge. This will help in reducing the TAT for pharmacy clearance.

CONCLUSION

- Delay in the discharge process has become one of the most problematic areas of the hospitals and hospital administrators to deal with. Since it is considered to be the final interaction of patient with the hospital, the process flow must be run smoothly to avoid causing any inconvenience to the patient.
- The Calcutta Medical Research Institute, Kolkata was also facing the issues related to increasing unplanned discharges. The present study was aimed to understand, analyze and improve the efficiency of discharge process in the hospital. The study helped in understanding the roles of each stakeholder in the process and the bottlenecks affecting the turnaround time of the process. A thorough process mapping aided to identify the problems better. Accordingly, suggestions were given to reduce the TAT and to increase the overall efficiency of the discharge process.

PROJECT REPORT 2

- ❑ Study on Utilization and Turnaround Time of Operation Theatre



INTRODUCTION

- The operation theatre complex in a hospital consumes around 9 to 10 percent of the total hospital budget expenditure and more than 40 percent of the hospital's annual budget. Thus, Operation theatres are the most expensive component as well as correspondingly the highest revenue generating part of the hospital facility.
- Being a capital and resource intense unit of the hospital, OT requires maximum efficiency and utilization for optimum cost benefits. The operation theatre can become a solid source of revenue for the hospital, if run efficiently. On the other hand, mismanagement and underutilization of the resources will lead to huge operational and financial drain.
- The Turnaround time (TAT) of Operating theatre (OT) has a broad and significant impact on hospital administrators, health care services and patients (Hoffman, 2018). It is defined as the duration in which the last patient is wheeled out of the OT room till the next patient is wheeled in for the next surgery.
- Factors related to operational layout, accessibility of equipment, personnel, scheduling of cases are considered to be inversely affecting TAT. The TAT can vary from 5 to 60 minutes depending upon the time spent in various tasks like counting of used instruments, disinfecting and cleansing of the OT room, and arranging equipment for the next surgery.

AIMS AND OBJECTIVES

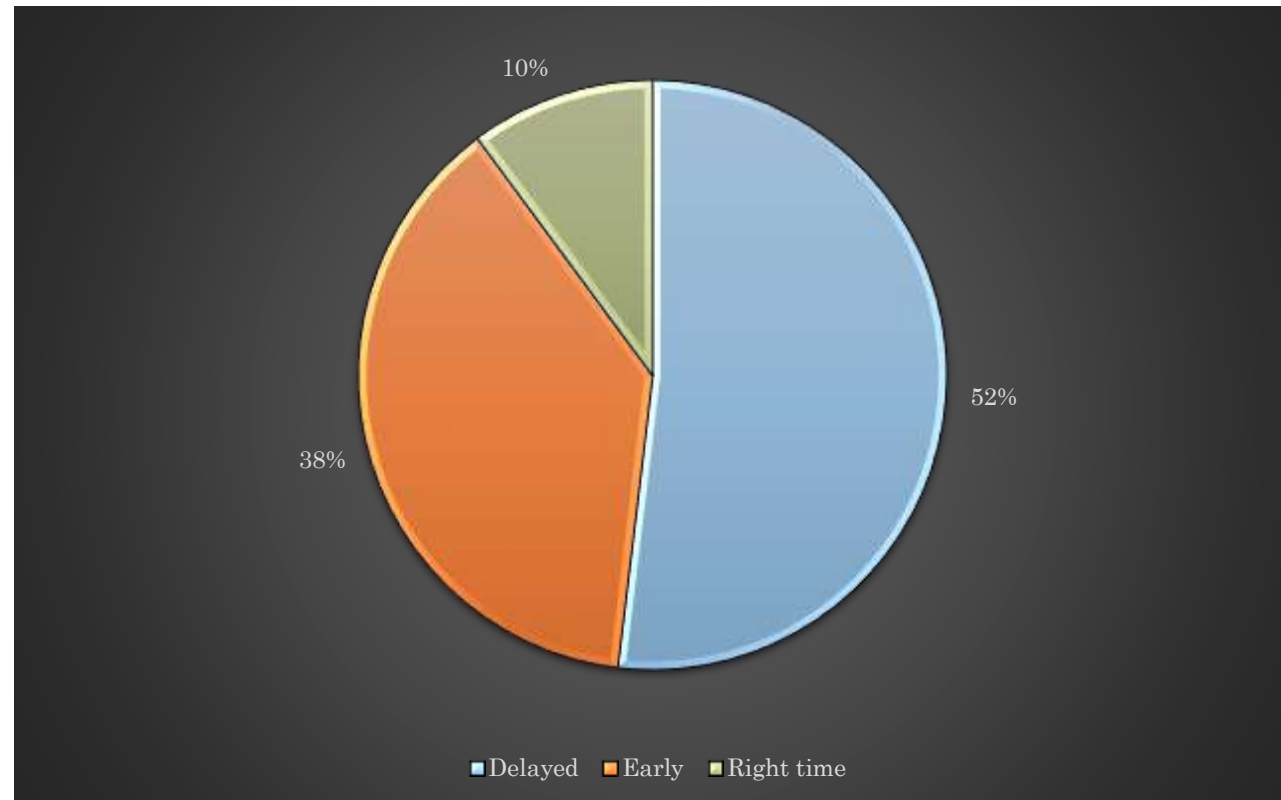
- To assess the overall utilization and TAT of OT
- To identify bottlenecks causing delay in surgeries
- To suggest measures to improve utilization of OT

RESEARCH METHODOLOGY

- Study area- OT Complex located on 2nd floor of CMRI, Kolkata
- Study design- Descriptive Cross-sectional study
- Duration of study- 4 weeks
- Sampling method- Convenience sampling
- Sample size- 350 elective surgical cases, out of which 27 cases were cancelled
- Data type- Quantitative
- Source of data- Primary and Secondary
- Mode of data collection- The primary data was collected by observing the routine surgeries performed in the 9 operation theatre units from 7th June to 26th June 2021 (9AM – 5:30PM).

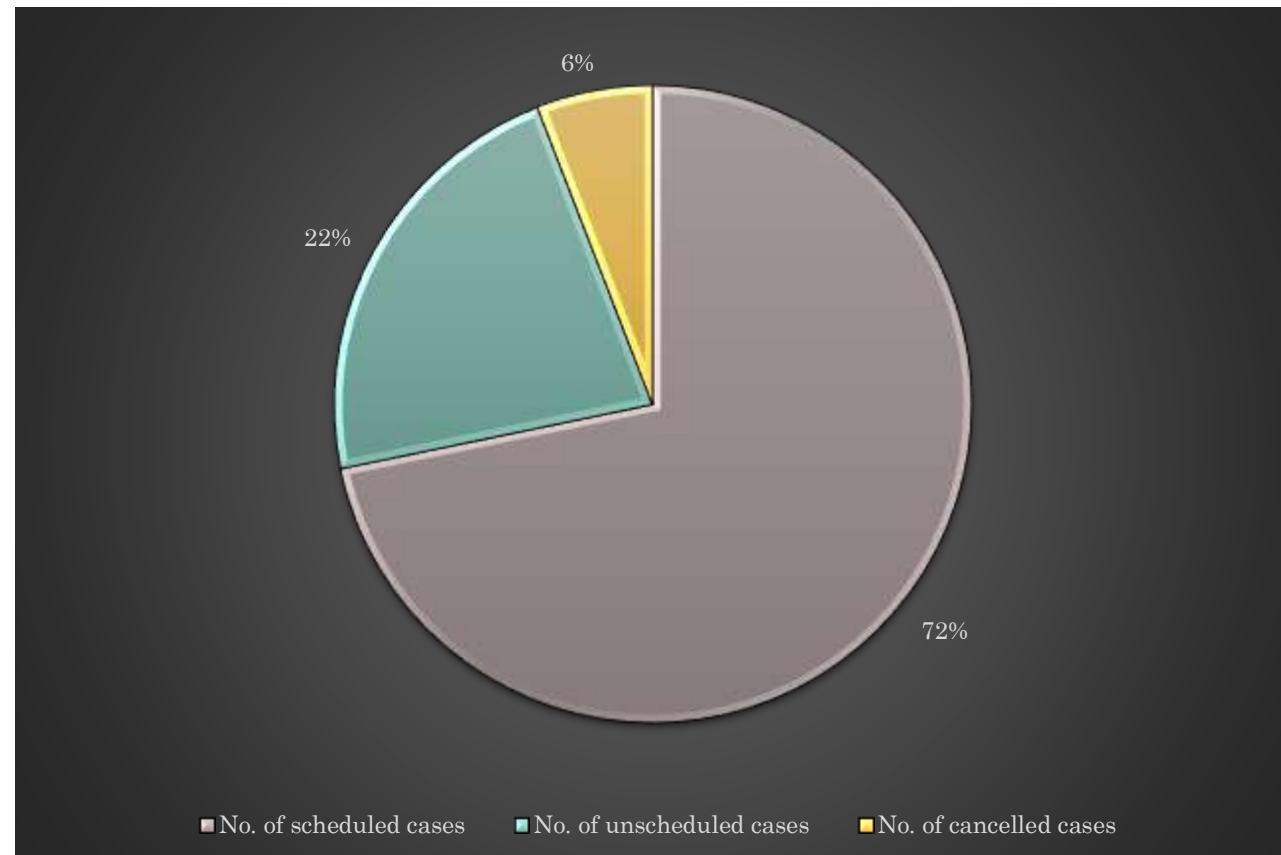
ACTUAL CASE START TIME Vs SCHEDULED TIME OF SURGERY

Interpretation: The pie chart shows that around 52% of the surgeries were delayed i.e., they were started after the given scheduled time. 38% cases were started before the scheduled time and 10% cases were started at the right time



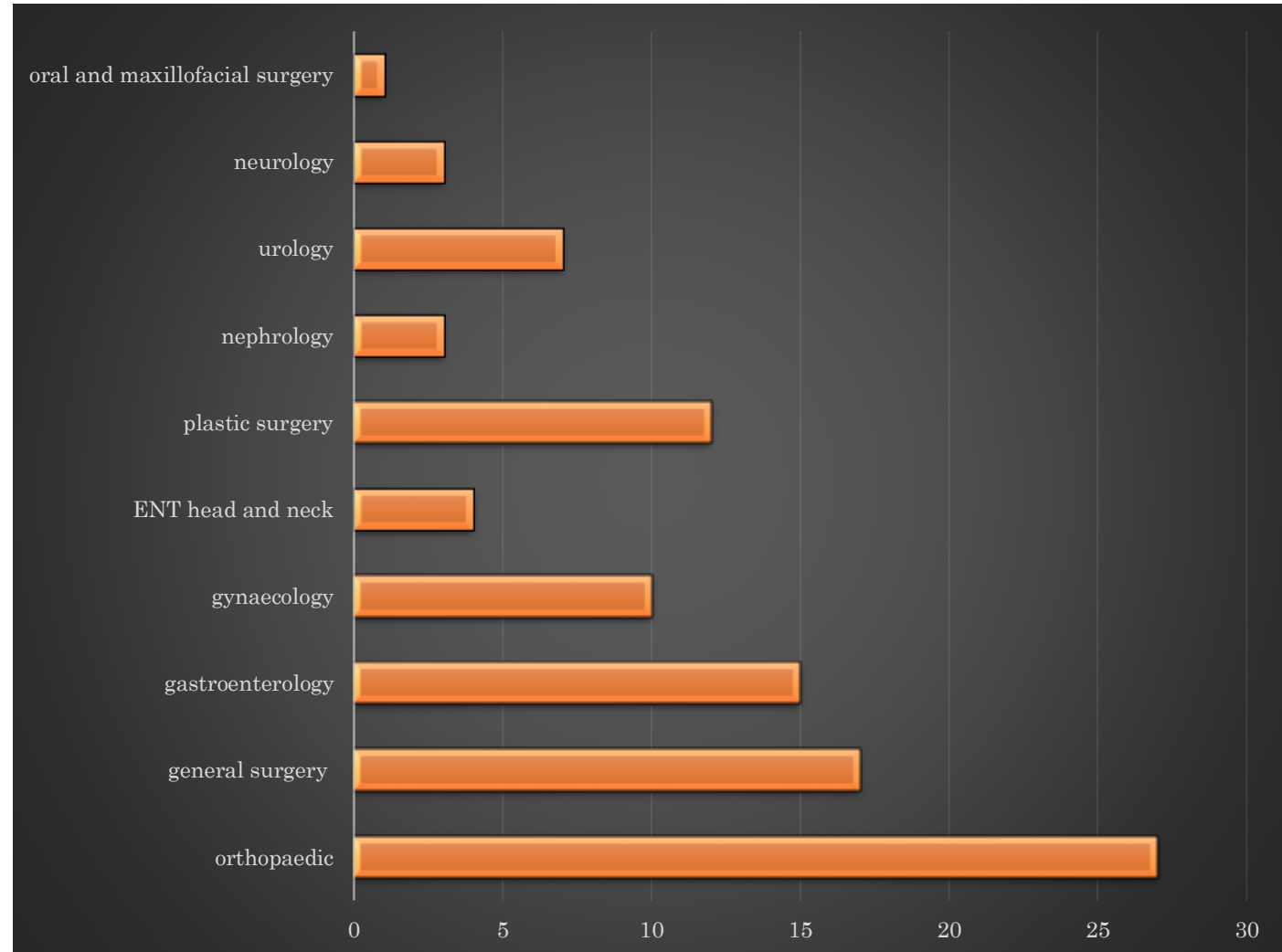
SCHEDULED, UNSCHEDULED, CANCELLED CASES IN OT

Interpretation: The above pie chart shows that 72% of the cases were scheduled, 22% cases were unscheduled (add-ons and emergency cases), and 7.71% cases were cancelled



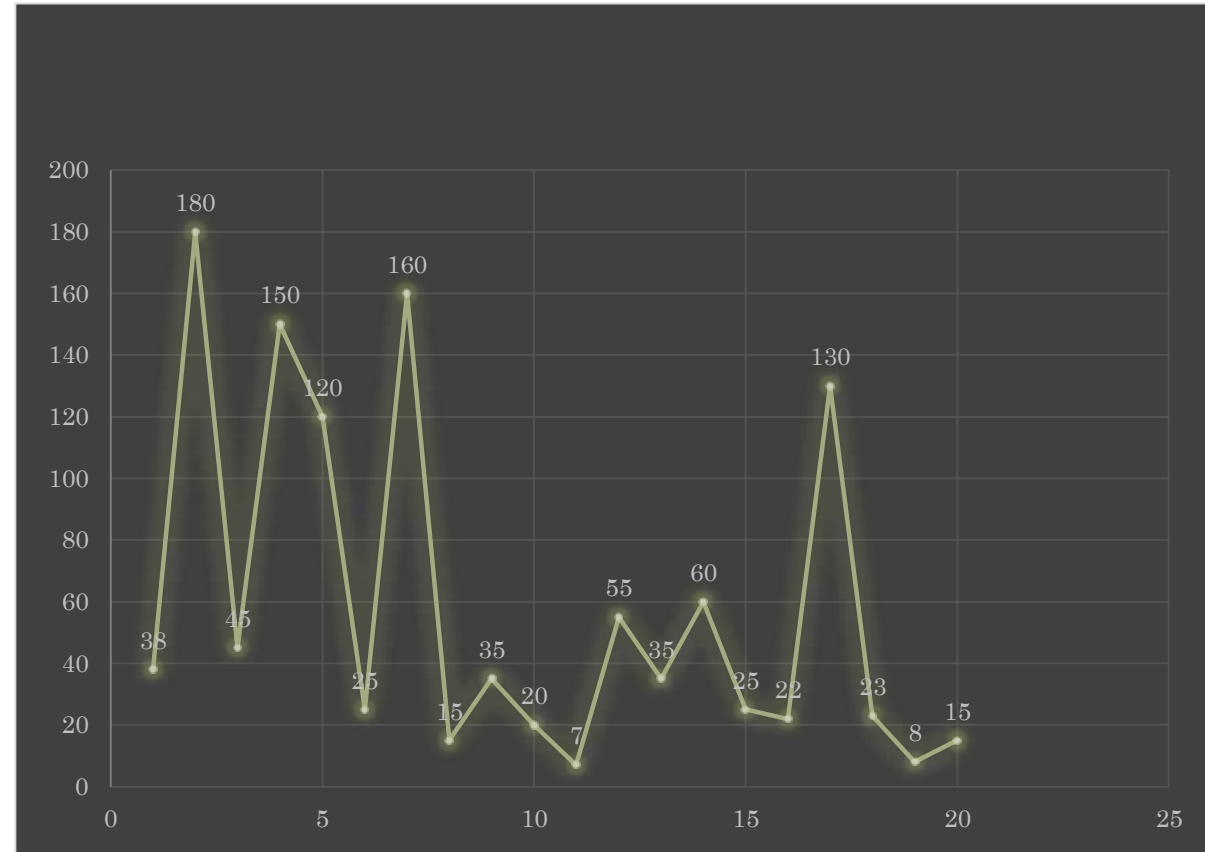
SURGERIES PERFORMED SPECIALITY WISE

Interpretation: The above graph shows that 27% of the surgeries were of Orthopaedic specialty, 17% surgeries of General Surgery, 15% surgeries of Gastroenterology, 10% surgeries of ENT head & neck, 12% surgeries of Plastic surgery, 3% surgeries of Nephrology, 7% surgeries of Urology, 3% surgeries of Neurology and 1% surgeries of Oral and Maxillofacial Department.

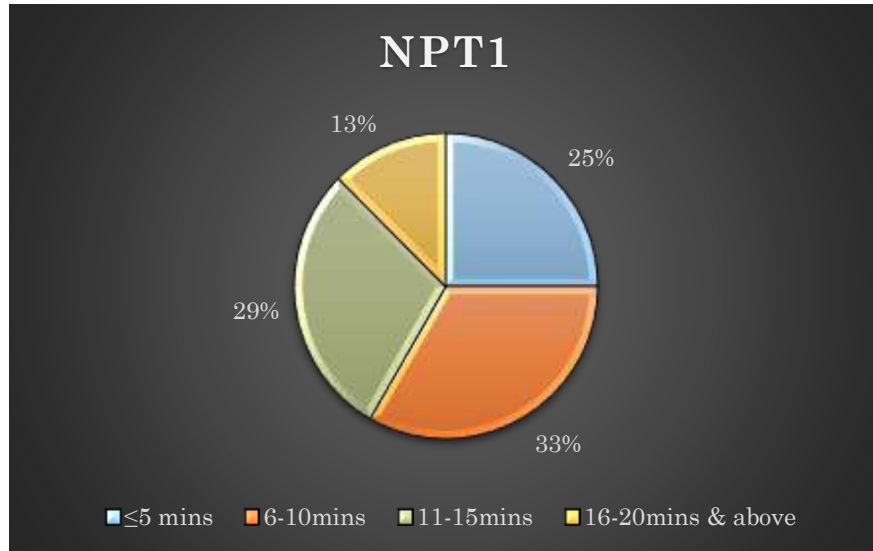


TAT OF OT (in minutes)

Interpretation: The graph shows that the average TAT of the OT is 54.8 minutes. The highest TAT being 180 minutes and the least being 7 minutes



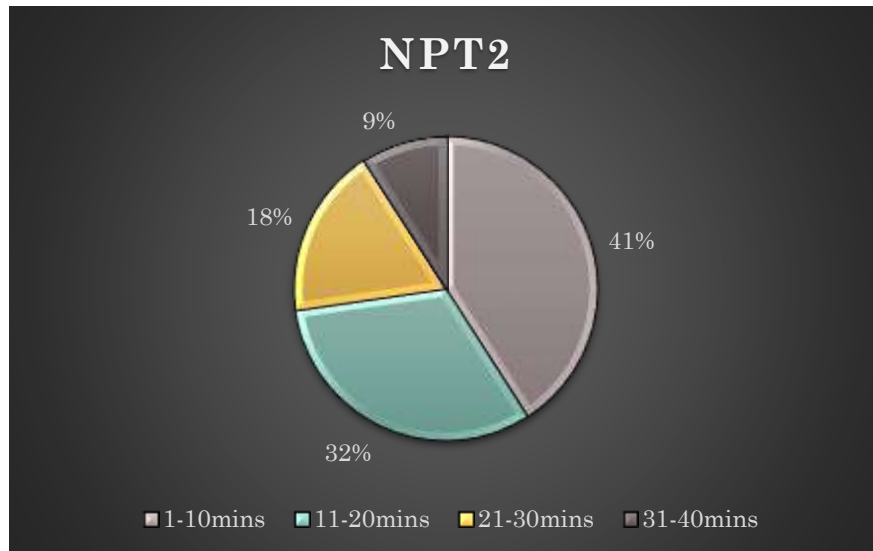
NON-PRODUCTIVE TIME



Interpretation: NPT1: Nonproductive time T1= (Induction begin time) – (Wheel-in time of patient in OR)

NPT2: Nonproductive time T2= (Incision in-time) – (Induction end time)

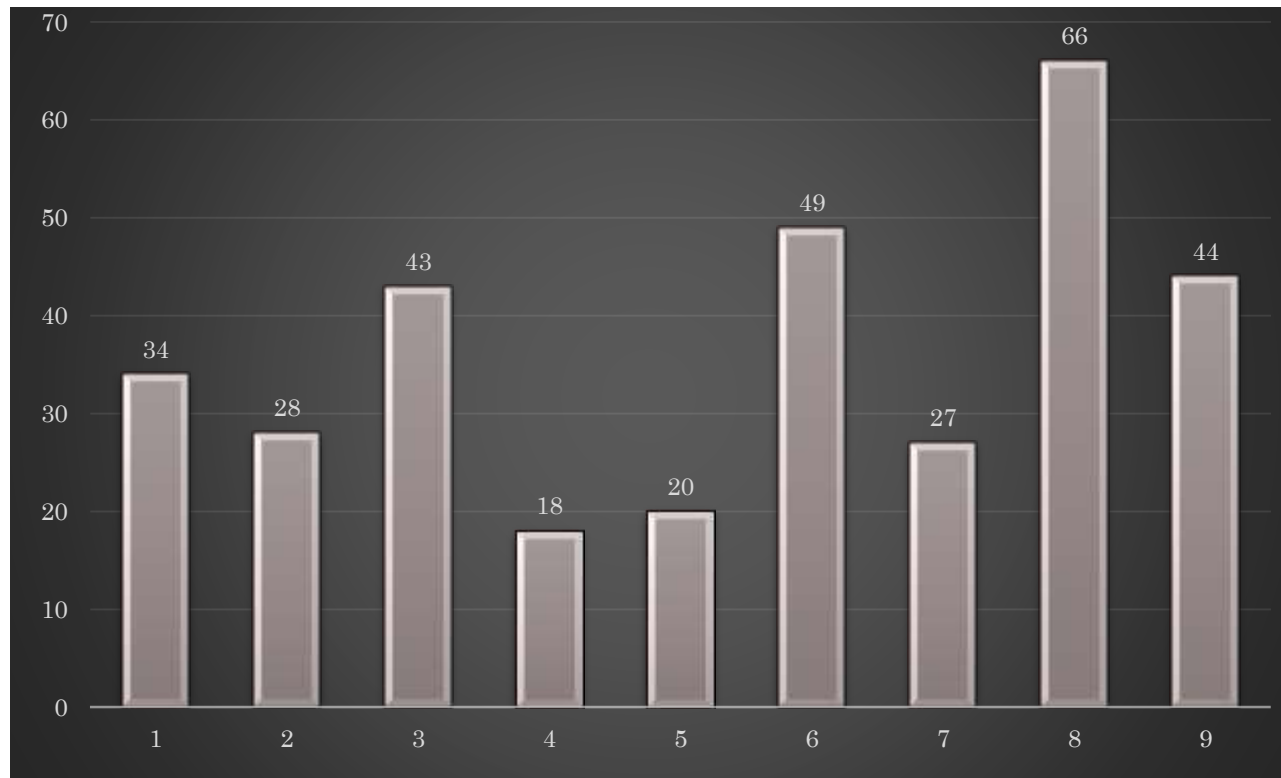
From Fig 12., it can be inferred that the maximum number of cases had NPT1 of 6-10 minutes whereas the lowest number of cases had NPT1 of 16-20 minutes



From Fig 13., it can be inferred that maximum number of cases had NPT2 of 1-10 minutes and the least number of cases had NPT2 of 31-40 minutes

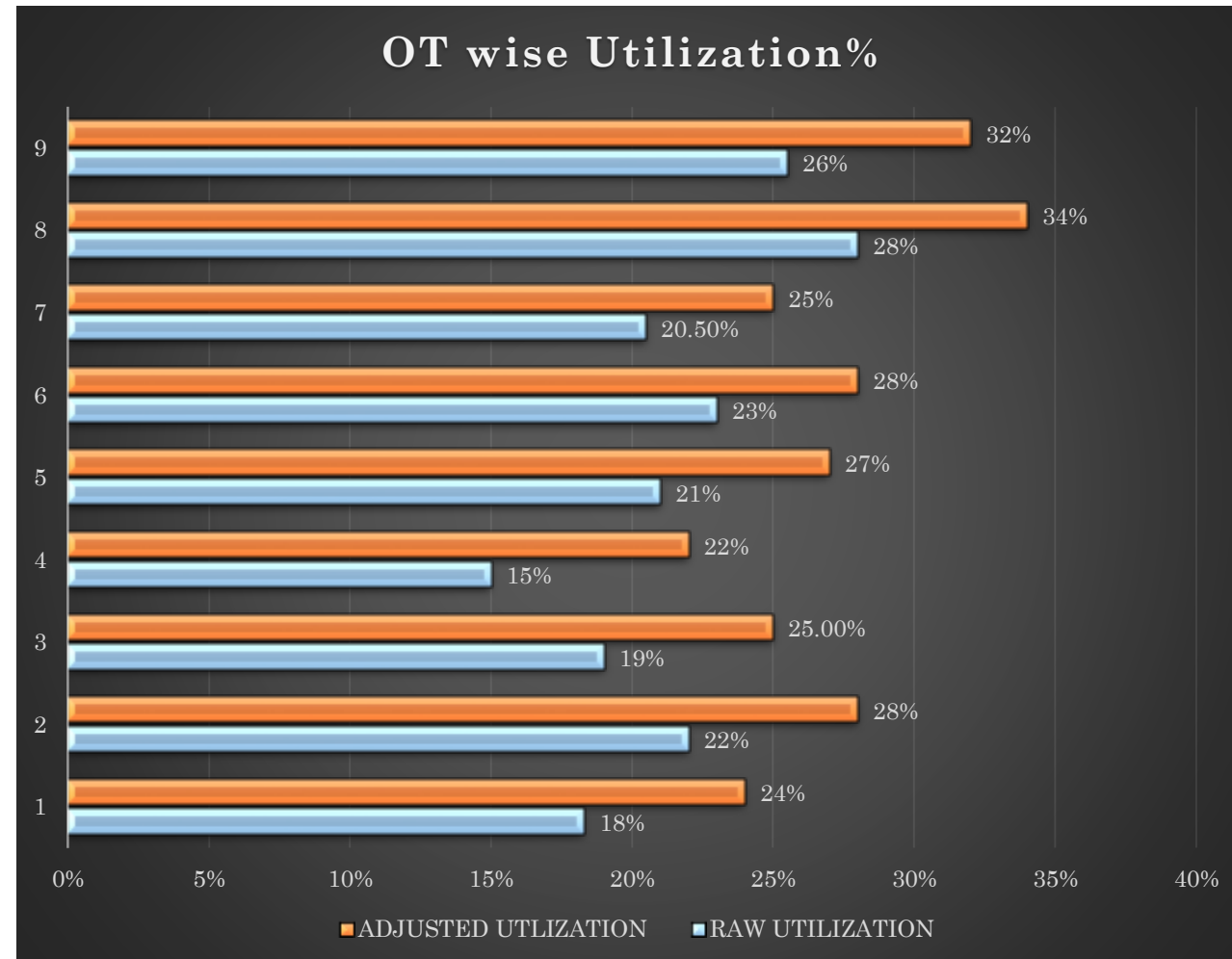
No. OF SURGERIES PERFORMED PER OT UNIT

Interpretation: The chart shows that maximum number of surgeries were done in OT 8 and the least number of surgeries were performed in OT 4



OT UTILIZATION

The chart shows the raw and adjusted utilization rates of each OT Unit. The average raw utilization rate was found to be 20.3%, and the average adjusted utilization rate was calculated to be 32.4%. OT 8 had the highest raw utilization rate of 28%, whereas OT 4 had the lowest raw utilization of around 15%.



KEY FINDINGS

Mean OT Utilization rate-
26.35%

- Time taken for actual surgery-
59.7%
- Time taken for supportive services-
40.29%

Mean TAT of OT- 58.4
minutes

OT Cancellation rate= 7.71%

Mean time for which patients
are kept in holding area (pre-
operative)- 42 minutes

Mean time for which patients
are kept in post-operative
recovery room- 39 minutes

Surgeries performed after 5
PM face maximum challenges
due to unavailability of
nursing staff, OT technicians.
Improper distribution of
nurses in each OT adds more
to the problem.

Surgeons arrive late for the
surgeries and cause delay in
first case starting time.

Booking of OT unit by the
surgeons is done via
telephonic booking. It creates
conflicts and leads to
improper scheduling of cases.

RECOMMENDATIONS

- All the instructions and information must be given to the patients and the attendants prior to the day of surgery. The attendants must be told strictly to come to the hospital 1 hour before the scheduled time of surgery.
- PAC sheet must be filled by the doctor one day before the surgery to avoid delays on the day of surgery.
- Patients must be sent to the OT complex at least an hour before the scheduled time of surgery.
- Status of the OT cases to be performed on next day must be checked. Any cancellation of case must be informed to the concerned surgeon and Anesthetist immediately.
- The first must always be started on time. Otherwise, it forms a chain reaction causing delay in the next surgeries.
- Billing clearance must be done one day prior to the day of surgery to avoid delays.
- All the consent forms must be filled and signed one day prior to surgery.
- Number of Unscheduled cases should be reduced. Proper to scheduling of cases must be done to avoid overutilization of OT.
- Booking of cases prior to the day of surgery should be done in a transparent platform. The HIS of the hospital should include a platform for the surgeons to book OT rooms. This can be done to avoid any conflicts.

CONCLUSION

- The OT Utilization rate at CMRI was found to be much lower than the standard rate. Due to the Covid-19 pandemic, the number of surgeries performed per day has significantly reduced thus inversely impacting the overall OT Utilization rate. Further, the Turnaround time is quite high with a mean of 58.4 minutes. It should be reduced to improve the overall OR utilization. Many add on cases were added in between the scheduled cases which led to rescheduling of cases which is also responsible for increasing TAT.
- The low OT utilization rate and high turnaround time indicate that the hospital needs to focus more on enhancing the efficiency and productivity of OT by avoiding first case delays, reducing non-productive time and utilizing technical and human resources optimally.
- The study helped in understanding the main causes for the increased turnaround time of OT. The overall utilization rate was also calculated to evaluate the efficiency of OT. Accordingly, recommendations were given to reduce the TAT and to optimize the utilization of OT.

Thank
You!



The conventional definition of management is getting work done through people, but real management is developing people through work.

— Agha Hasan Abedi —

AZQUOTES