

**Summer Training at
Max Super Speciality Hospital New Delhi
(April 3 to June 2, 2017)**

- **Discharge Process (Real Time Analysis)**
- **EMR Feedback from Doctors**

**By
Zubeda Hasan**

**Under the guidance of
Dr. P.R. Sodani**

**MBA Hospital & Health Management
2016-2018**


**Institute of Health Management Research
The IIHMR University, Jaipur
2017**

CERTIFICATE

This is to certify that **Dr. Zubeda Hasan** has undergone summer training at **Max Super Specialty Hospital Patparhganj, New Delhi** from 3rd April to 2nd June 2017.

The candidate herself completed the project assign 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. P.R. Sodani

Dean Training
The IIHMR University

Date: 17th June 2017

TO WHOMSOEVER IT MAY CONCERN

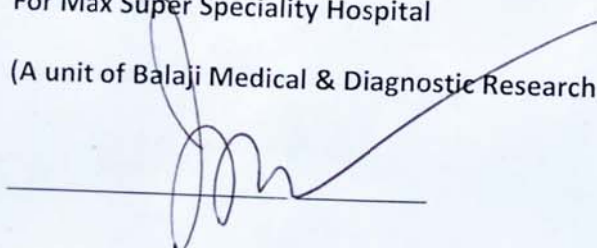
This is to certify that Dr. Zubeda Hasan has been associated as an INTERN with the department of Medical Administration for a period of 3rd April 2017 to 2nd June 2017 at Max Super Speciality Hospital Patparganj.

During her tenure she was found industrious, intelligent & honest towards her assignments.

We wish her all the best in her future endeavors.

For Max Super Speciality Hospital

(A unit of Balaji Medical & Diagnostic Research Centre)



Major (Dr.) Indranil Mukhopadhyay

Medical Superintendent

Major (Dr.) Indranil Mukhopadhyay
Medical Superintendent
Max Super Speciality Hospital
Patparganj, Delhi-110 092

“Sometimes our light goes out

But is blown into flames by another human being

Each of us owe deepest thanks

To those who have rekindled this light”

Acknowledgement is the most difficult part of the entire project as unfortunately these pages allow me to name just a few, who have contributed in one way or another to this project, which leads me to a proverbial tip of the iceberg. This work is a synergetic product of many minds.

I would especially like to express my appreciation to **Prof.P.R Sodani (IIHMR UNIVERSITY)**, my mentor, for his guidance throughout. I would like to sincerely thank **Dr. Indraneel (MS) , Dr. Loveleen Sharma (DMS) , Dr. Shruti Kohli Goel (DMS)** of Max super speciality Hospital , Patparhganj, New Delhi to direct me to complete this project. I acknowledge the help and cooperation received from all the Employees of the organisation of especially HR department and discharge coordinators.

I would like to extend my gratitude towards **Dr. Hem Bhargav**, Deputy Registrar of IIHMR University and to the Placement committee for giving this auspicious opportunity.

Lastly would thank all my well wishers and family members to encourage me to do the completion of the project.

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ABBREVIATIONS

B1 – Basement 1 , B2 – Basement 2 , B3 – Basement 3

BSE / NSE – Bombay Stock Exchange \ National Stock Exchange

CSSD – Central Sterile Supply Department

EWS – Economicaly Weaker Section

HDU – High Dependency Unit

ICU – Intensive Care Unit

NICU/PICU/NSICU/MICU – Neonatal ICU , Pediatric ICU, Neurosurgical ICU, Medical ICU

OPD/IPD – Out Patient Department , In patient department

OT – Operation Theatres

BMT – Bone Marrow Transplant Unit

NABH – National Accreditation Boards for Hospitals and Healthcare

ORGANISATION PROFILE

1.INTRODUCTION:

1.1Max Foundation

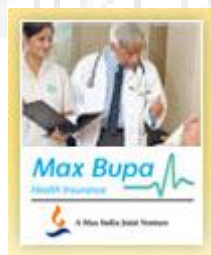
In 1985, Max India Limited which is a Public Limited company with over 37,000 shareholders. got listed in the NSE and BSE.

1.2Origin of MAX

MAX started by having a factory in Mohali where they were manufacturing a special kind of plastics.

In the year 2000 from manufacturing it came into health services where in they came out with the **MAX Healthcare hospital**. They also moved into the **Max New York life** that is the insurance company. Another company which is the part of MAX India group is the **Neeman Medical International** that does lot of research on drugs.

(A) Pictures depicting Max Origin Journey



- 1) '**Protect Life**' through their Life Insurance subsidiary **Max New York Life**, a joint venture between Max India and New York Life, a Fortune 100 company
- 2) '**Care for Life**' through Healthcare company **Max Healthcare**, a subsidiary of Max India Limited
- 3) '**Improve Life**' through Clinical Research business, **Max Neeman**, a fully owned subsidiary of Max India Limited
- 4) '**Enhance Life**' through Health Insurance company, **Max Bupa Health Insurance**, a joint venture between Max India and Bupa Finance Plc., UK which is set to launch in 2009;
- 5) From its past, Max India continues its interest in **Speciality Products** manufacturing for the packaging industry.

1.3 Milestones :

- In 2000 Max Medcentre, Panchsheel Park
First Medcenter with OP facilities & day care surgeries
- In 2002 , Max Hospital, Pitampura - First hospital to be ISO certified & first high end secondary care centre in North Delhi.
- In 2003, Max Hospital, Noida - Focus on Mother and Child care with Non-invasive Cardiology, Orthopaedics, ENT, Ophthalmology, Nephrology etc.
- In 2004 Max Heart & Vascular Institute, Saket - First Super Tertiary Care Facility with Advanced Cardiac Life Support Ambulances and Air Evacuation Service.
- In 2005, Max Super speciality Hospital , Patparhganj - 1st Multispecialty Tertiary Care centre in East Delhi
- In 2006, Max Super Speciality Hospital, Saket - First Multi, Super Speciality Tertiary Care Location
- In 2007 Max Hospital, Gurgaon - High End Secondary Care Centre in Gurgaon
- In 2007 , Max Healthcare Certification
Max Healthcare received NABH & NABL certification for its laboratories.
- In 2008 Express Healthcare Awards for Excellence in Healthcare

- In 2009 , D L Shah National Award on 'Economics of Quality' by Quality Council of India
- In 2009 , Max Healthcare received NABH Accreditation for Blood bank
- In 2011 , Max Super Speciality Hospital, Shalimar Bagh- Max Healthcare Consolidated its position in Delhi & NCR through the launch of its 300 bedded Facility in Shalimar Bagh in November 2011.
- Max Super Speciality Hospital, Mohali- Max Healthcare extended its footprint in North India (in PPP with Govt. of Punjab) in September 2011.
- Max Super Speciality Hospital, Bathinda- Max Healthcare extended its footprint in North India (in PPP with Govt. of Punjab) in September 2011.
- Max Super Speciality Hospital, Dehradun, Max Healthcare opened its first Super Speciality hospital in Uttarakhand in May 2012
- In 2014, Max Multi Speciality Hospital, Greater Noida - Secondary Care Hospital in Greater Noida
- In 2015 Max Super Speciality Hospital, Vaishali
Pushpanjali Crosslay Hospital officially becomes Max Super Speciality Hospital, Vaishali
- In 2015 Max Smart Super Speciality Hospital, Saket
Saket City Hospital officially becomes Max Smart Super Speciality Hospital, Saket
- Max Institute of Cancer Care, a dedicated Cancer Care daycare centre opens in Lajpat Nagar in June 2016
- In 2017 Max Super Speciality Hospital, Saket is accredited by the Joint Commission International(JCI)

Max Healthcare has 2800000 + patients across 130 countries

With 14 hospitals in different locations as listed above

Comprising 2300 + doctors rendering services in 30 specialities with 6600 + staff support

1.4 Goals, Vision , Mission

Goals

Delivery of healthcare is a dynamic process to meet evolving needs. MIME is a central education and training resource that will meet and enhance the training needs of all medical staff working in Max Healthcare, as well as of the external healthcare community. The goal is to build a unique institution where patient care is at the forefront driven by excellence in healthcare delivery a committed and highly skilled workforce is an imperative. This, in turn should result in providing ready access to highly skilled and industry ready workforce translating to superior patient care. In addition, it will be a traction factor and retention toll for all cadres of healthcare workforce.

Max Vision

Deliver international class healthcare with a total service focus by creating an institution committed to the highest standards of Medical & Service excellence, Patient care, scientific knowledge, Research & Medical Education.

Max Mission

- Create exceptional standards of Medical & Service Excellence
- Care Provider of FIRST CHOICE
- Principal choice for physicians
- Create international Centre for excellence for select Super Speciality
 - Safety - Patient, Customer, Staff

(B) Picture showing vision/mission



1.5 Awards and Certificates:

(C) ABP news healthcare award

Received on December 31, 2016



- Award for Best Customer Service in Healthcare(Customer Listening Program)
- The Best Use of Six Sigma in Healthcare(Quality Program-MQS)
- Award for Best Green Hospital (Reducing Carbon Footprint of Tertiary care Hospital)
- Best Quality Initiative (BCMA Medication Process Improvement)
- Best Patient Safety Initiative Award (Prevention of Patient Fall)
- Certificate of Merit
- Excellence in Training and Development (Aarambh & STEPS Program)
- Use of Six Sigma in Healthcare (Achieving Nursing Excellence project)
- Product Innovation(Online Tracking and real time monitoring of HAI)

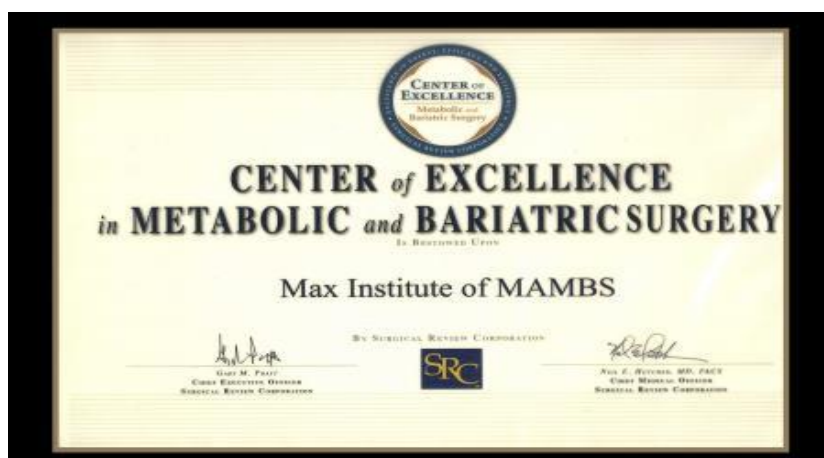
(D) INDIAN WELLNESS AND HEALTHCARE AWARD



Received Gold Award in the Health Brand of the Year – Healthcare

Received Silver Award in the category of Medical Tourism Brand of the Year

(E) CENTRE OF EXCELLENCE AWARD



Max Institute of MAMBS received Center of Excellence in metabolic and bariatric surgery by Surgical Review Corporation in 2017, January.

Max Super Speciality Hospital, Patparganj :

Max Super Speciality Hospital, Patparganj established in the year 2005 with 147 beds, 3 OTs and 1 Cathlab has now grown remarkably itself as a NABH accredited super-speciality facility.

Its belief in credibility, excellence, trust & care (Sevabhav) develops a strong relationship.

Max Hospital, Patparganj was the first Multispecialty Tertiary Care Centre in East Delhi.

Currently, it has 402 Beds which includes In patient care beds of wards, HDU and ICU.

117 beds are under critical care comprising PICU, NICU, MICU, SICU, NSICU, BMT, HDU.

It has 11 functional OT's which on an average conducts 25 to 30 surgical procedures a day.

An OPD of 700 to 800 patients a day is seen.

1.6 Services Provided:

It is a unit of Balaji Medical and Diagnostic Research Centre providing services in medical disciplines of Cardiology, [Neurosciences](#), Oncology, Obstetrics and Gynecology, [Orthopedics](#), Urology and [Kidney Transplants](#), Minimal Access, Metabolic and Bariatric Surgery. The laparoscopic surgeons have performed more than 30,000 surgeries which include both basic and advanced surgeries. The experts specialize in mini laparoscopy in addition to conventional laparoscopy. They are well equipped with infrastructure required for high-end surgery ie obesity board, obesity suite

Registration and OPD consultation : Every patient has to register once reaching the hospital. The registration form picture(F) is depicted below. This is considered as PanMax registration

MAX HEALTHCARE

Registration Form

Personal Details :
First Name _____ Last Name _____
Next of Kin _____ Relationship (Please specify) _____
Father's/Husband's Name (Please tick): _____
Nationality _____
Date of Birth ☐☐ DD ☐☐ MM ☐☐☐ YYYY Age ☐☐ years
Gender ☐ M ☐ F Marital Status ☐ Single ☐ Married

Contact Details
House / Flat No. _____
Locality / Colony _____
City _____ State _____ Country _____
Residence No. _____ Office No. _____
Mobile No. _____ Email _____

Other Details
Present Occupation
☐ Corporate / Embassy Official ☐ Govt / PSU Employee
☐ Physician ☐ Retired ☐ Businessman
☐ Housewife ☐ Others (please specify) _____

How did you come to know of Max Healthcare?
☒ Referred by Doctor ☐ Hospital ☐ Friends / Relatives
☐ Newspaper / Advertisement ☐ Website ☐ Others (please specify) _____

Name of referring Doctor/Hospital _____

In case of emergency, contact Mr / Ms _____
Phone No. _____ Local Address _____

Declaration
I hereby declare that the facts stated above are true to the best of my knowledge and belief.
Signature of Patient/Relative _____ Relationship _____

For Office Use only
Date & Time _____ Registration No. _____
PCC/ PCE Signature _____

All fields are mandatory, to be filled
Marketing / Registration Form / Rev. 1.0 / 1 April 2008

Once registered with unique hospital identity (UHID), the patient can proceed to the needed OPD for consultation , priors appointments are fixed through telephonic coordination to make the patient experience better. Walk-in patients are also consulted depending on time availability. The average waiting time is 20 to 30 minutes , varying according to the department concerned.

Admission : The admission process can happen either through emergency or on OPD basis. The planned cases for surgeries are given prior timings to avoid any delay in their admission process.

1.7 FLOOR WISE LAYOUT :

Max Super Speciality Hospital , Patparhganj has two buildings.

Designated as PPG 1 and PPG2.

PPG1 comprises of 3 floors .

Ground floor has a help desk reception , cafeteria , home care desk{picture (G)},, ATM dispensing machine, pharmacy



OPD for ophthalmology, ENT, Cardiology, dermatology, EWS patients OPD.

It has onco day care ward, economy ward.

First floor has OPD of nephrology, pulmonology, pediatrics, obstetrics and gynaecology, endocrinology, dental check ups. There's economy ward, day care ward, BMS ward single rooms , double rooms .

Second floor has in patients wards , endoscopy room , waiting room

Third floor has NICU , nursery , labour room, PICU and pediatric HDU, counselling room for the parents of newborns. Duty rooms, Waiting room and a seminar room is also present.

PPG2 comprises of 9 floors with three basement levels. At B1 , PPG1 and PPG2 are interconnected through a passage.

Emergency (picture H) is located at B1 along with Cafeteria, CSSD , MRD , library. Also located are offices for billing, TPA , Bed managers, duty doctor rooms .



Emergency comprises of 10 casualty beds along with 5 extendable beds. It is fully equipped with necessary life saving drugs , life supporting ventilators, trained staff and doctors. Presence of bed manager office closer to it helps in saving time and arranging hospital bed for admissions. Radiological department is located in its proximity to ensure radiological investigation service 24*7.

CSSD

It plays a major role of receiving, cleaning ,packing, disinfecting, sterilizing, storing and disinfection of instruments per well delineated protocols and standard procedures

The main aim of cssd is to reduce the level of micro- organisms from 10^6 to 10^{-6}

Zones present are Decontamination zone, clean zone and Sterile zone

Check for proper sterilisation is done by bowie dick test, Leak test, Sterilisation test and Batch monitoring test.

There's a day care ward for surgical patients along with Heart command ward exclusively for cardiac patients.

Basement 2 has security office where they monitor entire hospital under CCTV , IT department checks into various complaints of system along with the issues of Electronic Medical Records.

Its been recently 2.5 months since EMR got implemented in the hospital setting .

Basement 3 has, housekeeping office, well maintained mortuary , food and beverage storage room.

Ground floor has front office, help desk where enquiries can be made regarding charges for various procedures, bill details of IP patients, pharmacy. Also present are OPD rooms for Internal Medicine, Neurology, Oncology, Urology, Orthopedics along with necessary examination table and equipments. The waiting area has chairs and racks containing informative pamphlets, newspapers and magazines. Water coolers are located at reachable distance, ATM machine, washrooms , cafeteria are also present.

Laboratory is located for investigations of OPD patients. Approximately, 250 cash patient investigations happen in a day.

First floor is for critical care of patients containing 10 bedded SICU , 10 bedded NSICU, 13 bedded Neuro ICU, 10 to 12 bedded CCU and a CathLab.

Waiting room and cafeteria is present.

Operation Theatres are located in 2nd floor. In order to limit visiting of public and prevent nosocomial and other unwanted infections, the elevators restrict by limited halting on first and second floors.

The third floor has department of physiotherapy, music therapy and occupational therapy with trained and dedicated therapists. On the other side, microbiology, pathology and biochemistry labs are located especially for in patient investigations.

Wards are located from 4th to 8th floor containing single, double and economy rooms , rooms for dietician, nursing staff work station on either side and duty doctor rooms. Floors are allotted department wise to make it easier for the doctors as well as patient attendants. Each ward has two wings named as “A” and “B”. Round the clock there are housekeeping staff, transport service, nursing staff and duty doctors in the ward, along with services of dietician, therapists, discharge coordinators from 9AM to 5 PM.



(I) A picture depicting hospital room with its bed and other allignments



(J) A picture depicting ward

Floors designated to various departments depicted in tab (1) below

FOURTH FLOOR	Internal medicine and Cardiology
FIFTH FLOOR	Oncology
SIXTH FLOOR	Surgery and Orthopedics
SEVENTH FLOOR	Neurology
EIGHT FLOOR	International patients

4th floor also has a HDU with assigned intensivist. Most post-operative patients are shifted here for observation and necessary care.

The 9th floor has Bone marrow transplant (BMT) where Hemato-oncological patients are admitted for bone marrow transplant, monitored before and after stem cell transplantation. BMT is 6 bedded.

There are three wings of MICU named as MICU-A, MICU-B and MICU-C.

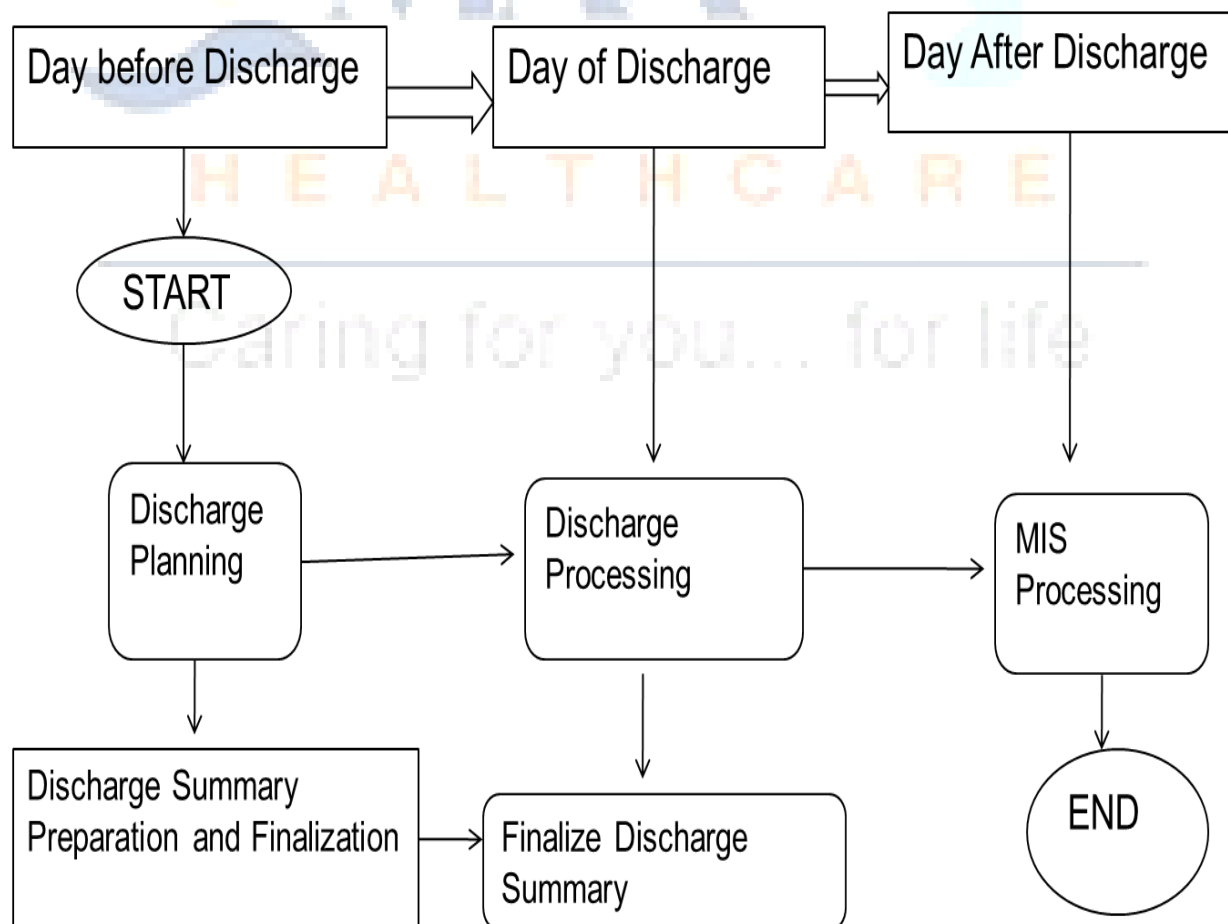
2. Project on Discharge Process (Real Time Analysis)

2.1 AIM:

1. To reduce the discrepancy of time taken for the Planned Discharges
2. To avoid unplanned discharges
3. To analyse planned unplanned statistics
4. To discharge the patient by 2pm
5. To ensure that bed/room gets ready within 10 to 15 minutes for the next admission
6. To learn issues during the discharge process & causes of delay in discharge.
7. To learn about billing issues various patients have.
8. To observe and monitor bed / room preparation process.

To achieve the purpose, let's first understand the discharge process in the hospital.

2.2 Discharge Process: (figure 1)



2.2(a) STEP OF DISCHARGE PROCESS AND THE MAN POWER

INVOLVED

➤ By the Doctor

Discharge and drug advice are entered into the CPRS.

➤ By Floor RMO/ Typist/ Coordinator

Finalize list of Plan discharges

Obtain Drug advice

Planned intimation.

Discharge Summary preparation& finalization

TPA summaries scan and send to TPA desk.

➤ By Nursing Staff

Drug collection

Drug return/indent

Report collection.

Preparation of Investigation folder

Checking out for any pending references

➤ By Billing Staff – Back end

Bill preparation

Package conversion

2.2 (b) ACTIONS TAKEN ON THE DAY OF PLANNED DISCHARGE

➤ By the Nursing Staff

Patient readiness (to start as soon as the bill is settled)

To explain the entire discharge advise about the drugs, diet and therapies

To ensure removal of any intravenous cannulas (peripheral and central), catheter, ryle's tube

➤ By Ward Secretary

Bill Finalization and coordinate for cash and TPA patients

Bill settlement.

Discharge slip signing

System updated – bed ready.

➤ By Housekeeping Staff

Room clean up

Getting the bed ready

Change status to available

➤ By billing (Back end)

Bill finalization-cash

Bill settlement, discharge& call to ward secretary – TPA

➤ BY TPA Executive

Obtain Discharge Summary from RMO.

Obtain bill for billing

Take approval from TPA

➤ By Security

Collect Discharge slip from patient/attendant

Inform housekeeping supervisor

The project was executed by observing and analyzing the discharge process in PPG -1 and PPG-2 separately.

2.3 DISCHARGE PROCESS IN PPG-1

Observations:

Causes of delay

1. TPA approval
 2. Summary delay
 3. Clinical reasons such as late round of doctors, symptoms or pending investigations.
As seen on 2nd floor, TSH sample sent before discharging newborns.
 4. Food service timings
 5. Housekeeping service – when more time taken by GDA's to prepare room
 6. Insufficient computer on wheels
 7. Transport service issue
- Monitoring of Housekeeping service
8. 7 beds took time more than 15 minutes to get ready.

9. 4 were in ground floor economy. Housekeeping staff took 30 to 45 minutes to prepare them.
10. The rest 3 were single rooms.
11. As too many discharge happens around the same time, this adds to the time consumed in making room ready for the next admission.

Data collection method:

- Primary data collection done through personal observation in the wards, through interrogation with Team leader, nursing staff, housekeeping staff, medical officers.
- Secondary data collection done by obtaining data from the discharge coordinators and housekeeping staff from their records.

Sample Design:

A random sample of 132 discharge cases was taken which happened over a period of 4 days. It included both planned and unplanned discharges.

Tab 2 Planned Unplanned Discharges

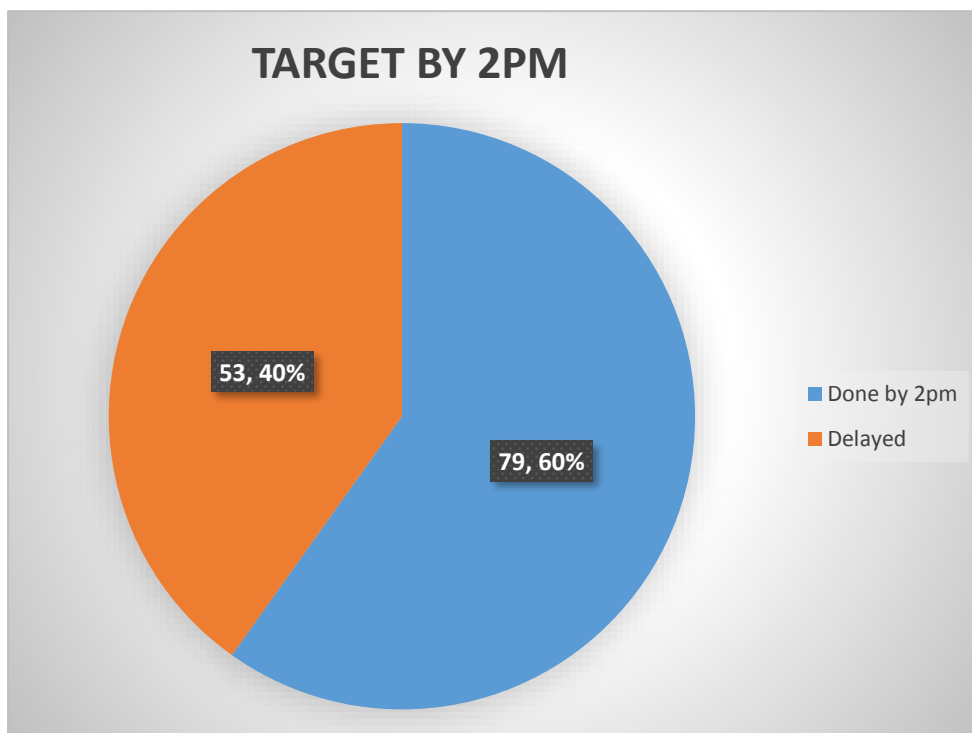
PLANNED DISCHARGES	77
UNPLANNED DISCHARGES	55

ANALYSIS:

From the data analysis, it was found

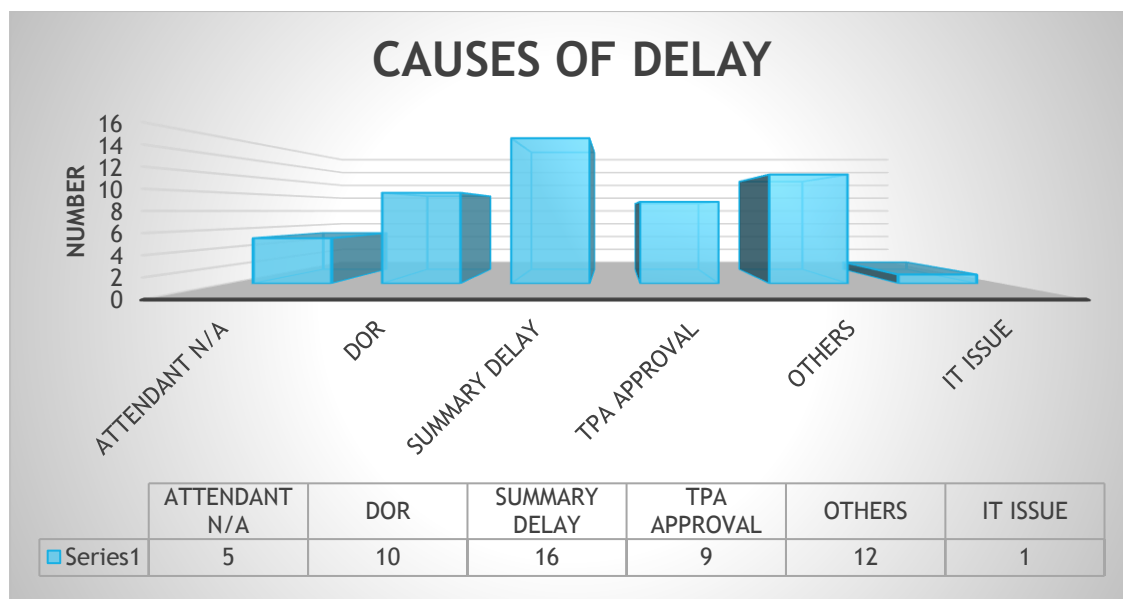
1. Among the 132 sample discharges, 58% were planned and 42% unplanned
2. The time target of 2pm could be achieved in 60 percentage of cases

Pie-Chart 1

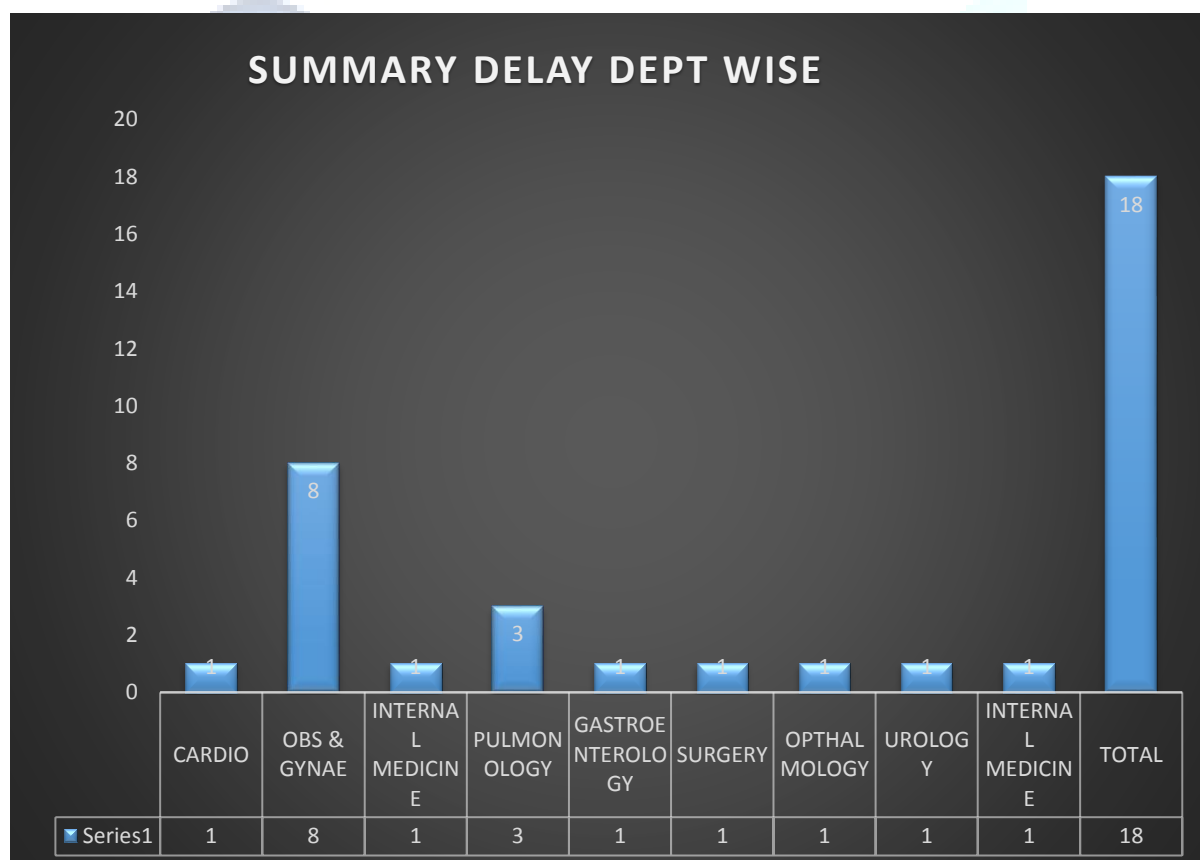


3. Causes of delay

Out of the 53 discharges delayed, 5 were due non availability of attendant, 10 as they were discharge on request, , 16 summary delay, 9 due to TPA approval pending, 1 due to IT issue (Bar diagram 1 below)



4. Summary delay was analysed department wise to take appropriate corrective action in future. It was found 8 summary delay of Obstetrics and Gynaecology department. The rest data is depicted in the picture below. (bar diagram 2)



Recommendations:

Based on the observations and analysis, following are the suggestions to improve the statistics of discharge process and ensure patient discharge by 2pm.

- ▶ Proper cooperation and coordination among various departments (medical, Paramedical staff, lab technicians, discharge coordinators, transport, housekeeping)
- ▶ Number of housekeeping staff can be increased or job rotation, job sharing among housekeeping staff can be done to ensure room getting ready within ideal time. Training can be provided to be able to complete the task on time.
- ▶ Training of doctors and nurses to make sure intimation is put on time, doctor rounds on time, nurses to accompany doctors, manuals can be provided about this information to them.
- ▶ Job recognition to appreciate the good work.
- ▶ Number of systems can be increased along with monitoring to ensure efficient and effective use of resources.
- ▶ Planned discharge summaries to be made in one day prior.
- ▶ Counsel patients to prevent DOR , also to anticipate based on the patient-professional relationship established
- ▶ TPA clearance process to be initiated in advance.

2.4 DISCHARGE PROCESS IN PPG-2

Sample Design:

A random sample design of 127 patients were taken which were discharged over the period a 4 days from in patient wards (excluding ICU's, HDU's)

Data collection:

While conducting the project in PPG-2 , data was collected

- By primary data collection through personal observation
- Secondary data collection through data present with discharge coordinators and housekeeping staff.

Observations:

HINDRANCES IN DISCHARGE PROCESS

1. Unavailability of attendant
2. Billing issues – pharmacy return, clearance delay, pending TPA approval
3. International patients waiting in rooms after billing , leaving room as per their convenience
4. Too many unplanned discharges cause delay
5. Housekeeping takes 30 to 40 minutes for single room, 20 to 30 minutes for economy and double rooms preparation.

Analysis:

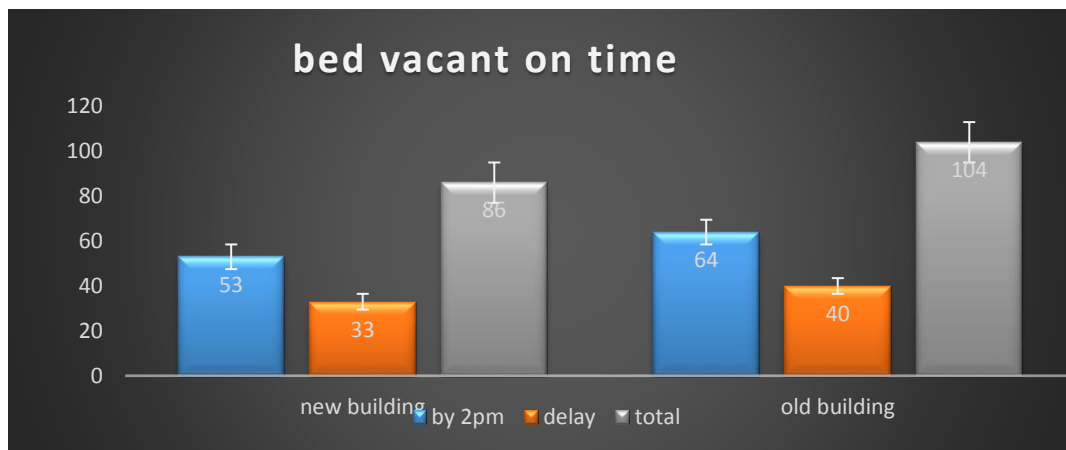
To ensure lesser errors, the time of patient leaving room / bed has been analysed in dual manner.

By analysing from housekeeping turnaround time and discharge coordinators turnaround time along with personal observation.

1. Based on **data analysis obtained from housekeeping incharge** (discharges from 9am to 4 pm) includes both PPG-1 and PPG-2
 - Total discharges – 208 patients
 - New building (PPG-2)– 86
 - Old building (PPG-1)– 104
 - Others – 14 (ICU's , HDU's, recovery rooms)

It was found that hospital beds got vacant by 2pm were approximately 62% in PPG-2, 61.5% in PPG-1.

Pictorial presentation of bed vacant on time (bar diagram 3)



Caring for you... for life

2. Based on the data obtained from **discharge coordinators**, a sample of 127 patients was taken randomly which revealed

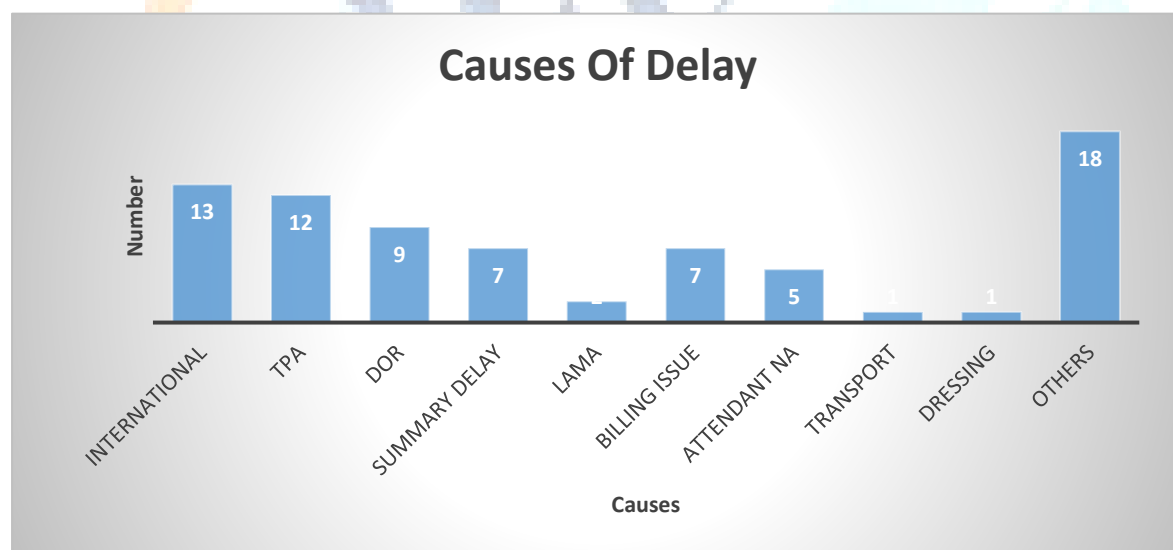
- DISCHARGES ON TIME (by 2pm) : 52
- DELAYED : 75
- Total : 127

Ie 41% discharges were on time by 2pm.

Causes of delay analysed: Out of 75 delayed, 13 were international patients, 12 TPA approval pending , 9 discharge on request, 7 summary delay, 2 LAMA, 7 due to billing issue, 1 due to transport unavailable, 5 attendant not available, 1 dressing wasn't removed. (Depicted in bar diagram 4 below)

The 18 others mentioned were due pending references, delay rounds, pending reports and references, clinical reasons.

Bar diagram 4



Summary delay department wise revealed gastroenterology department had count of 3 out of total 7 delay depicted in tab 3 below

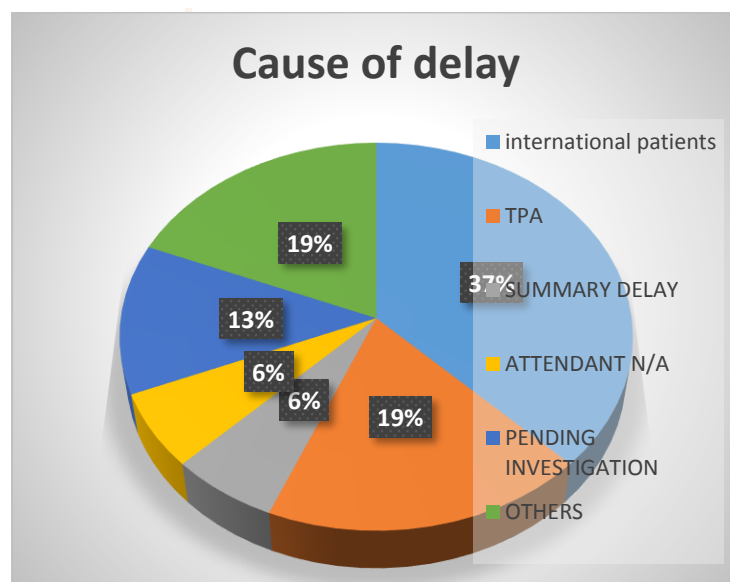
Total Summary delay	7
Gastroenterology	3
Surgical Oncology	1
Nephrology	1
Neurosurgery	1
Internal medicine	1

As It was found that international patients get discharged from the system but vacate room as per their convenience, some pay the bill and stay back according to their flight timings, some delay bill payment despite being medically fit to go. A detailed analysis was done on 8th floor to track these patients.

2.4(a) Analysis of international patient floor (8th floor):

Out of the total 22 patients discharged over a week, only 6 vacated the room by 2pm.

The cause of delay for 16 patients is depicted below in pie diagram 2



37% were found to be international patients. Discharge timing was collected from IP billing and room vacating time was obtained from housekeeping record. It revealed that out of 7 international patients only 1 vacated before 2pm.

RECOMMENDATIONS:

- 1.To avoid as much as possible unplanned discharges.
- 2.To orient international patients well in advance and ensure that they cooperate with hospital policies
- 3.Proper coordination in various departments, especially between housekeeping, transport and discharge coordinators.
- 4.Incentives can be given based on room prepared, discharges done without affecting CTC (cost to hospital). This might motivate for faster performance.
- 5.Billing issues can be avoided by initiating TPA process in advance, ensuring pharmacy return on time.
6. A prechecklist and postchecklist was suggested to hasten the discharge process and remove the avoidable obstacles.

The checklist is attached below in the following pages

A pilot study was attempted for a week with sample of patients being discharged on 4th floor to find the result of checklist in the wards. But implementation couldn't be done successfully due to

- The planned discharge list gets prepared by 6:30 PM. Discharge coordinators duty gets over by 5 PM.
- An additional requirement of manpower is required from 6PM to 8PM who can take round in each wing and tick the checklist obtaining information from incharged nurses and duty doctor on floor for the planned discharge patients.

2.5 Pre Discharge Checklist

S.N O	Checks to be done	YES	NO	N/A
1.	Is the rough summary ready?	☐	☐	☐
2.	Has the billing been done?	☐	☐	☐
3.	Are there any pending references?	☐	☐	☐
4.	Are there any pending reports?	☐	☐	☐
5.	Is there any pharmaceutical clearance to be done?	☐	☐	☐
6.	Will there be any need of transport services assistance required?	☐	☐	☐
7.	If yes , then please choose	Wheel chair	Stretcher	Ambulance others
8.	Does the patient need any home care?	☐	☐	☐
9.	Has the patient received careful instructions from dietician/therapists/ others?	☐	☐	☐
10.	Has the patients / attendant's queries been answered well?	☐	☐	☐
11.	Is there any dressing to be done?	☐	☐	☐
12.	Are there any investigations to be sent coming morning?	☐	☐	☐
13.	Has the medications been explained?	☐	☐	☐

Post Discharge Checklist

Name:

EHPG no:

Room no:

Date:

S.NO	Checks to be done	YES	NO	N/A
1.	Any delay in the discharge?	☐	☐	☐
2.	If yes , then specify cause	TPA Approval	Billing issue	Late rounds/ referrals
		Pharmacy clerance	Food Service related	Pending Investigation
3.	Room/bed vacant on time	☐	☐	☐
4.	Room ready on time post discharge (within 30 min)	☐	☐	☐
5.	Patient satisfied on discharge	☐	☐	☐

3.Project on EMR feedback from the doctors

INTRODUCTION:

An electronic health record (EHR), or electronic medical record (EMR), refers to the systematized collection of patient and population electronically-stored health information in a digital format. These records can be shared across different health care settings. Records are shared through network-connected, enterprise-wide information systems or other information networks and exchanges. EHRs may include a range of data, including demographics, medical history, medication and allergies, immunization status, laboratory test results, radiology images, vital signs, personal statistics like age and weight, and billing information.

EHR systems are designed to store data accurately and to capture the state of a patient across time. It eliminates the need to track down a patient's previous paper medical records and assists in ensuring data is accurate and legible. It can reduce risk of data replication as there is only one modifiable file, which means the file is more likely up to date, and decreases risk of lost paperwork. Due to the digital information being searchable and in a single file, EMR's are more effective when extracting medical data for the examination of possible trends and long term changes in a patient. Population-based studies of medical records may also be facilitated by the widespread adoption of EHR's and EMR's.

Features of EMR:

- Digital formatting enables information to be used and shared over secure networks
- Track care (e.g. prescriptions) and outcomes (e.g. blood pressure)
- Trigger warnings and reminders
- Send and receive orders, reports, and results
- Decrease billing processing time and create more accurate billing system

Comparison with paper-based records

Federal and state governments, insurance companies and other large medical institutions are heavily promoting the adoption of electronic medical records. The US Congress included a formula of both incentives (up to \$44,000 per physician under Medicare, or up to \$65,000 over six years under Medicaid) and penalties (i.e. decreased Medicare and Medicaid reimbursements to doctors who fail to use EMRs by 2015, for covered patients) for EMR/EHR adoption versus continued use of paper records as part of the Health Information Technology for Economic and Clinical Health (HITECH) Act, enacted as part of the American Recovery and Reinvestment Act of 2009.

One VA study estimates its electronic medical record system may improve overall efficiency by 6% per year, and the monthly cost of an EMR may (depending on the cost of the EMR) be offset by the cost of only a few "unnecessary" tests or admissions. Jerome Groopman disputed these results, publicly asking "how such dramatic claims of cost-saving and quality improvement could be true". A 2014 survey of the American College of Physicians member sample, however, found that family practice physicians spent 48 minutes more per day when using EMRs. 90% reported that at least 1 data management function was slower after EMRs were adopted, and 64% reported that note writing took longer. A third (34%) reported that it took longer to find and review medical record data, and 32% reported that it was slower to read other clinicians' notes.

The increased portability and accessibility of electronic medical records may also increase the ease with which they can be accessed and stolen by unauthorized persons or unscrupulous users versus paper medical records, as acknowledged by the increased security requirements for electronic medical records included in the Health Information and Accessibility Act and by large-scale breaches in confidential records reported by EMR users. Concerns about security contribute to the resistance shown to their widespread adoption. [weasel words]

Handwritten paper medical records may be poorly legible, which can contribute to medical errors. Pre-printed forms, standardization of abbreviations and standards for penmanship were encouraged to improve reliability of paper medical records. Electronic records may help with the standardization of forms, terminology and data input. Digitization of forms facilitates the collection of data for epidemiology and clinical studies.

EMRs can be continuously updated. If the ability to exchange records between different EMR systems were perfected ("interoperability" would facilitate the co-ordination of health care delivery in non-affiliated health care facilities. In addition, data from an electronic system can be used anonymously for statistical reporting in matters such as quality improvement, resource management and public health communicable disease surveillance.

EMR was launched on 11th March 2017 in Max Super Speciality Hospital, Patparhganj. Other branches of Pan Max healthcare have it already.

Objective:

1. To measure satisfaction with EMR among doctorsn of various departments
2. To learn issues being faced by them and to take corrective actions accordingly
3. To find out acceptance of EMR

Problem Statement:

It takes time for a change to be accepted and be successful in an organisation. As observed, EMR being new was affecting work quality in the discharge process along with other processes. Thus, need was felt to evaluate its feedback from the doctors.

Survey Methodology:

Quantitative and qualitative method was used.

Doptions and the last question was open one to learn issues and recommendation from the doctors. It is attached in the below page.

Sample Design:

As doctors were assigned major task in the EMR, they were chosen as sample.

A random sampling of 104 doctors was taken compromising from medical officers, junior residents, senior residents, attending consultants , associate consultants , head of the departments of medical supports, internal medicine, surgery, obstetrics and gynaecology, pediatrics, anaesthesia, neurology, cardiology, CTVS, neuro anaesthesia .

Data Collection:

- Primary data collection was done by personally getting questionnaire filled from doctors of various departments over a period of 9 days
- To avoid biases and errors, anonymity was maintained.

3.1 EMR QUESTIONNAIRE

INSTRUCTIONS

Its 2 months since EMR (Electronic Medical Record) has been implemented at Max Super Speciality Hospital, Patparhganj , New Delhi.

This questionnaire aims to learn about how well you are doing with it.

You can answer it anonymously. You are requested to choose the option without any biases and leave your valuable recommendations at the end.

Kindly mention your Department name

1. Were you first time user of CPRS
 - a) Yes b) No
2. Do you feel trained adequately to use it now
 - a) Yes, ofcourse b) somewhat c) Not much d) Not at all e) Not sure
3. How do you find the EMR in respect to the given parameters
 - Speed of your task has become
 - a) quiet fast b) somewhat quicker c)Not much difference d) Slow
 - Quality of your task
 - a) Has improved significantly b)slightly better c)no change d) has become worse than earlier
 - Your own Performance has
 - a) Improved slightly b)improved significantly c) No change d)Decreased
 - Your Department's Performance has
 - a) Improved slightly b)improved significantly c) No change d)Decreased
4. How often is the system user friendly?
 - a) never b) seldom c) half the time d) most of the time e) always
5. Do you agree that EMR is worth the time
 - a) Strongly agree b)Agree c)Neutral d)disagree e) Strongly disagree
6. Do you agree that EMR is worth the efforts
 - a) Strongly agree b) Agree c) Neutral d) disagree e) Strongly disagree
7. Do you find it easy to use
 - a) Yes absolutely b) somewhat c) not sure d) not much e) not at all
8. Does the system provide you with the necessary information you have been looking for (in regard to patient details, reports, notes etc)
 - a) never b) seldom c) half the time d)most of the time e)always
9. Do you find the information on the system to be accurate?

a) never b) seldom c) half the time d) most of the time e) always

10. Do you find the informations on time?

a) never b) seldom c) half the time d) most of the time e) always

11. Tell us about your experience of following clinical tasks with respect to EMR. How ease does EMR leads to

Clinical Tasks	Easier signific antly	Slig htly easie r	No chan ge	Slightly difficult	More difficult	Not applicable
Reviewing patients problems						
Daily notes						
Ordering Investigations						
Obtaining reports						
Ordering medicines						
Filling up of initials						
Check and signed type dictations has become						
Registering of codes for diagnosis						
Discharge Summary						
Discharge Intimation						

12.How Satisfied do you feel with EMR

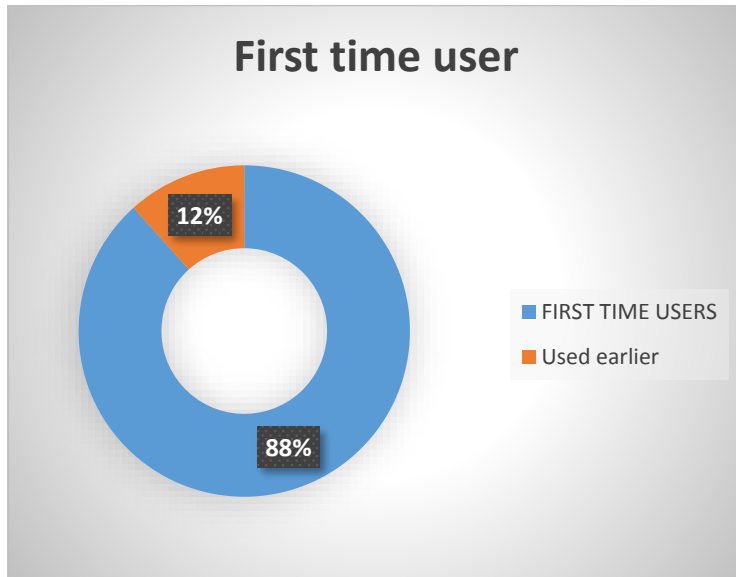
a) Significantly Satisfied b) seldom c) neutral d) dissatisfied e) not sure

13. Your issues with EMR and recommendations if any

Thank You For Your Feedback

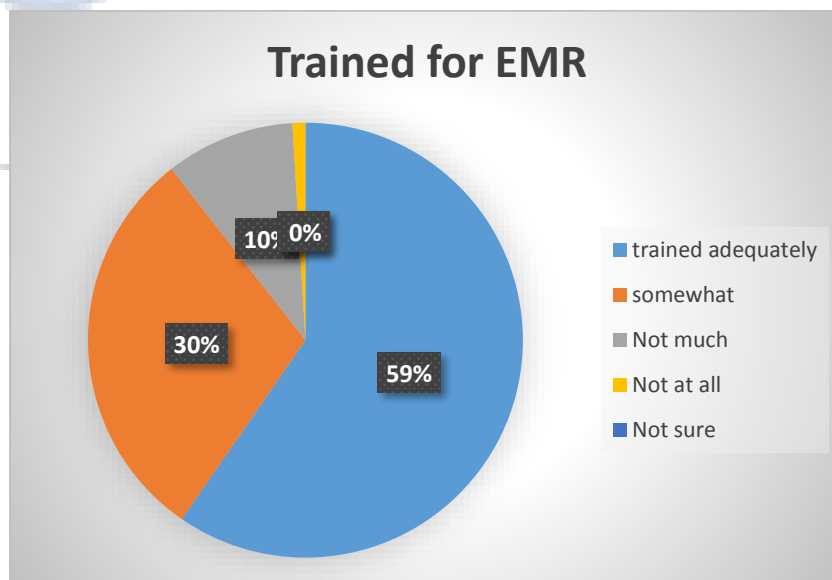
DATA ANALYSIS: (Quantitative)

1. From the survey, it was found that 88 % of the doctors were first time users of EMR.
(Depicted in Pie – Chart 3 below)



2. 59% feel that they are adequately trained for EMR

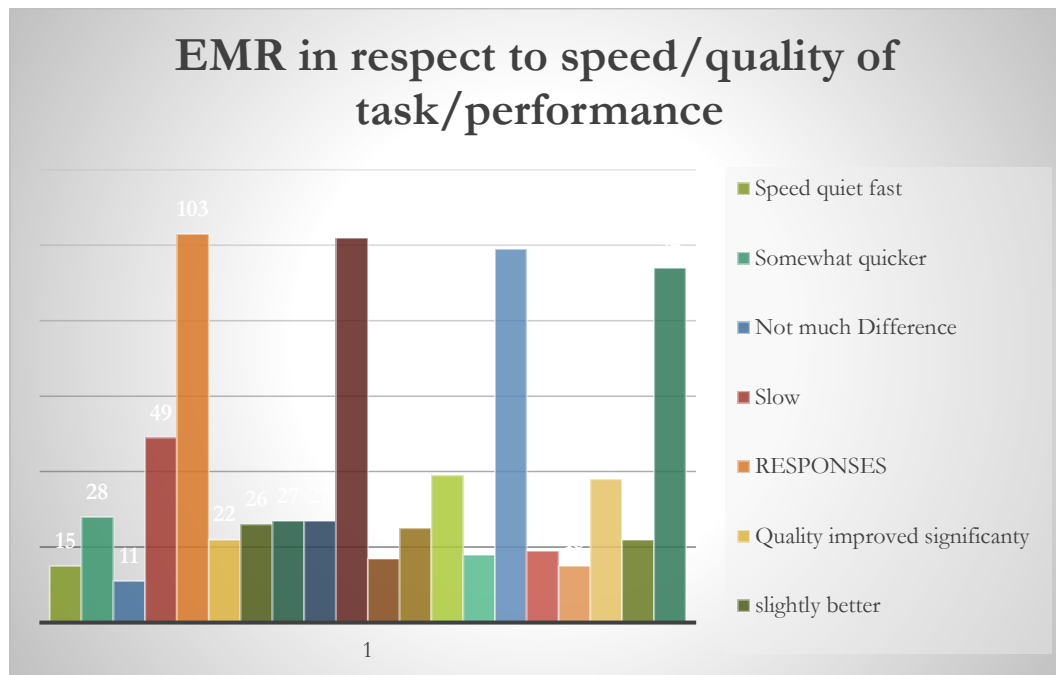
Depicted in Pie chart 4 below



3. EMR influence on the speed seems to slow the work as felt by 49 doctors out of 103, quality of task improved for 22 whereas 54 find it as no change or worse than earlier.

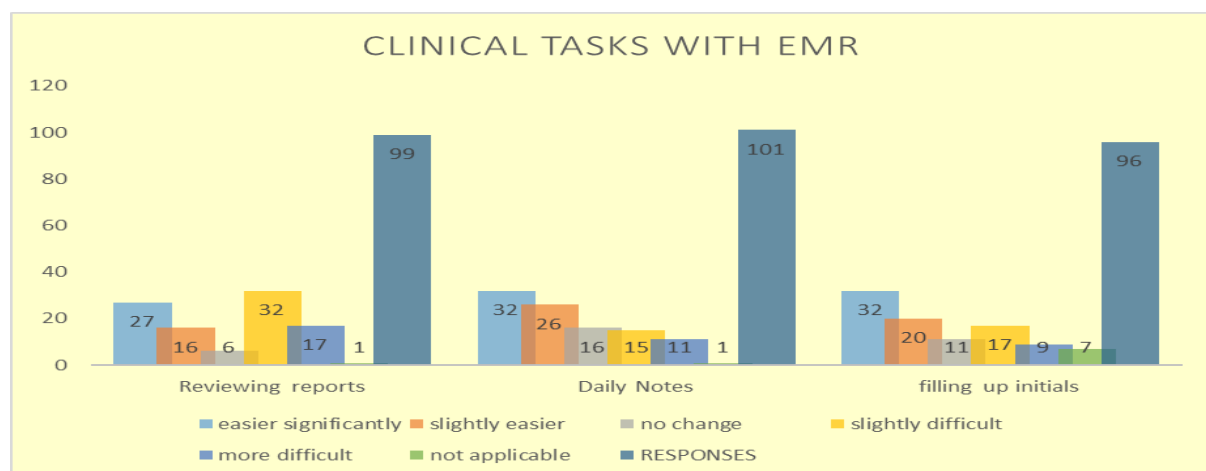
17 doctors find improvement in their performance significantly, 39 find no change.

(Bar diagram 5)



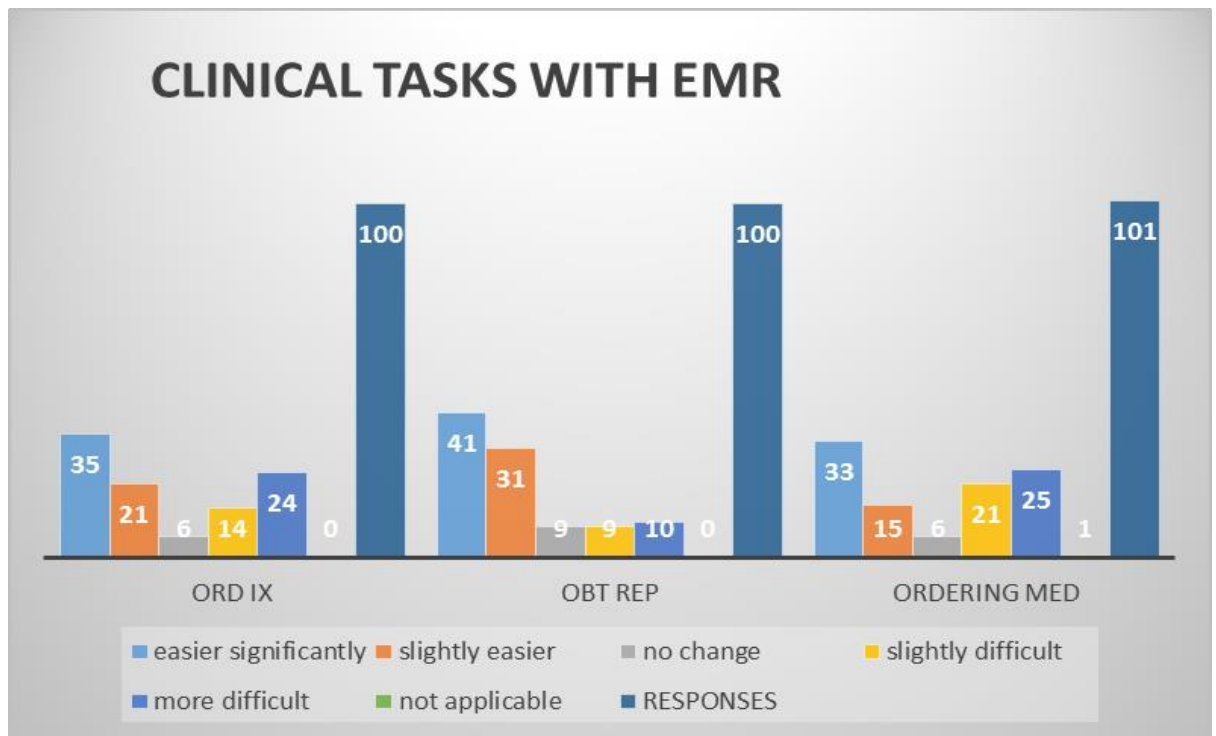
4. 32 out of 99 find it slightl difficult to review patients problems
32 find it significantly easier to put daily notes, 26 find it slightly easier out of 101
32 out of 96 find it significantly easier to fill up initials.

Bar Diagram 6.1

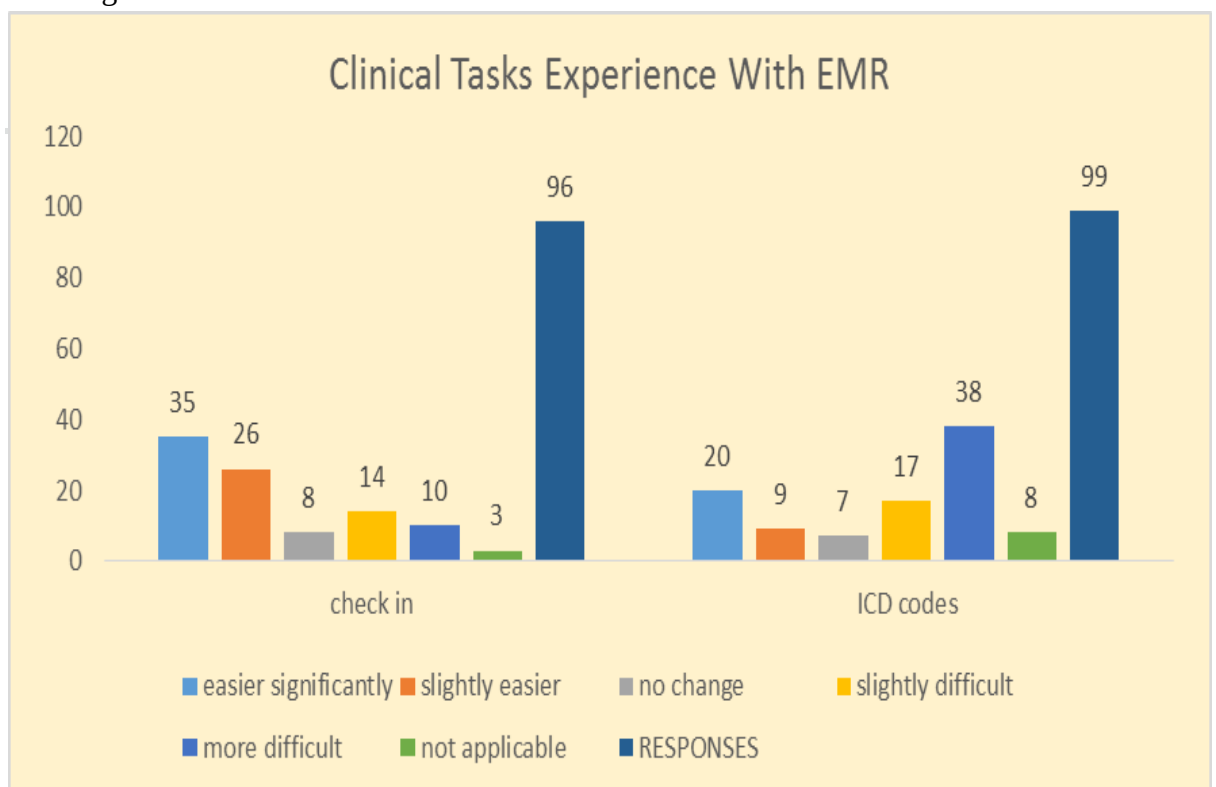


5. 35% find it significantly easier to order investigations.
41% find it significantly easier to obtain reports.

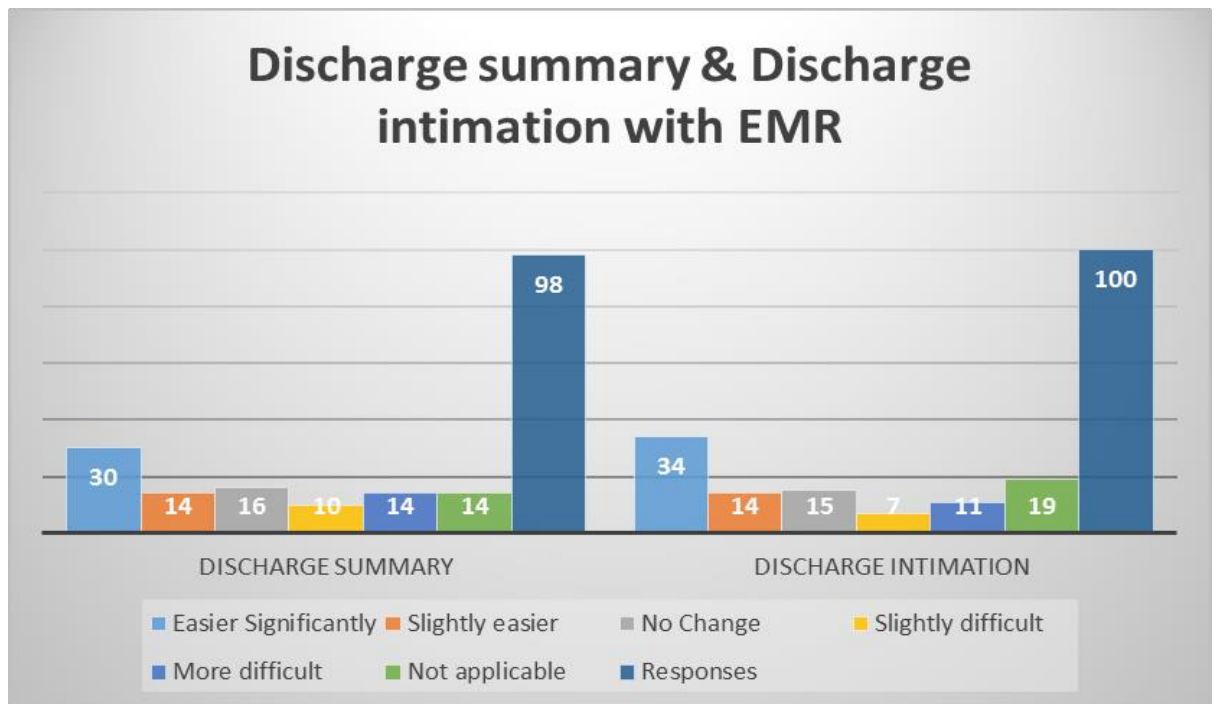
33% find it significantly easier to order medicines. (Bar diagram 6.2 below)



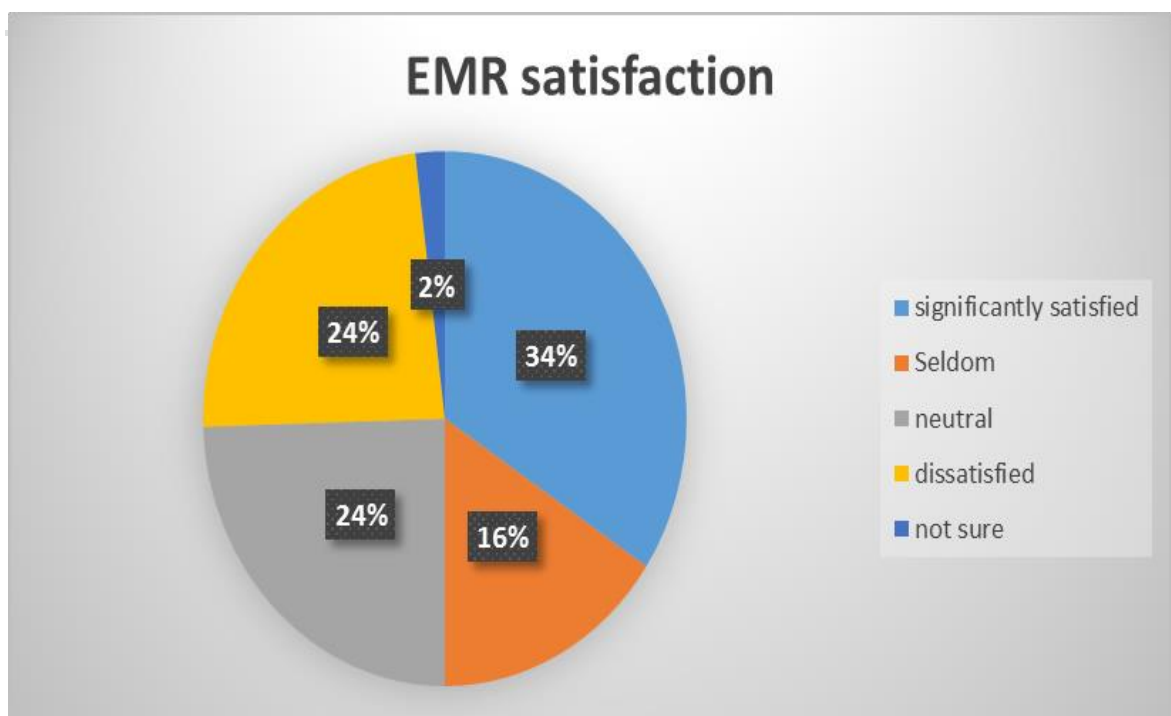
6. 36% find it significantly easier check and signed type dictations.
 38% find it more difficult to do registering of codes for diagnosis.
 Bar diagram 6.3



7. 31% and 34% find it significantly easier to prepare discharge summary and put discharge intimation respectively depicted in bar diagram 7 below



8. Overall, 34% are significantly satisfied , 16% seldom satisfied, 24% neutral and 24 % are dissatisfied with EMR depicted in pie chart 5 below



ISSUES: (Qualitative Analysis)

Based on personal interviews with doctors, the issues they are facing with includes

- Time consuming system
- Improper coordination with nurses about the orders entered into the system which results in delay in patient care
- Quality of time contributed to patients has decreased due to lesser of eye contact with patients
- Quality of radiological investigations has dropped down when compared to PACS which was being used earlier.
- Emergency medicine stock has decreased in the ward, turnaround time has increased in the availability of medicines to the patients.
- Shortage of COWS (computer on wheels)

RECOMMENDATIONS:

- Once the orders have been entered, they should get notified to the staff to be implemented on time.
- Ordering of investigations can be given to the nursing staff due increased workload and dissatisfaction among doctors.
- Quality of radiological images need to be improved, PACS can be connected to CPRS.
- ECG image to comply with CPRS.
- Inventory of emergency medicines to be increased as it was earlier.
- To make CPRS a little more simple and attractive.
- If possible, to provide with more COWS in wards or personal tabs/system for the consultants

ANNEXURE (page numbers are enclosed in brackets)

Pictures	Tabular columns	Pie Charts	Bar Diagrams	Figure
A-Max origin (5)	1 – Floor wise distribution of departments (16)	1-Target by 2pm (21)	1-Causes of delay (22)	Flowchart of discharge process (17)

B-Vision/mission (8)	2- Planned Unplanned discharges (18)	2-Causes of delay on 8 th floor (26)	2- Summar Delay Department wise (22)	
C- ABP news award (9)	3 – Summary delay (25)	3-First time user of EMR (35)	3-Bed vacant on time (24)	
D-Indian Wellness & Healthcare award (9)		4- Trained for EMR (35)	4- Causes of delay (24)	
E- Centre of Excellence (10)			5- EMR in respect to speed/quality/performance (36)	
F- Registration form (12)			6.1 /6.2/6.3 -Clinical tasks with EMR (36-37)	
G- Home care desk (12)			7 – EMR satisfaction (38)	
H- Emergency (13)				
I – Hospital Bed & its allignments (14)				
J – Ward (14)				