

Summer Internship
In
Medanta the Medicity
Sector 38, Gurgaon, Haryana



(APRIL 9 – JUNE 9, 2015)

A Report

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MBA in Hospital Management
2014-2016

Institute of Health Management Research,
Jaipur

CERTIFICATE

This is to certify that Dr. Devanshi Ahuja has undergone her Summer Training in Medanta , The Medicity , Gurgaon from 9th April 2015 to 9th June 2015. The candidate herself carried out all the studies related to her Summer Training. Her approach to the study has been scientific and analytical.

The summer training is in partial fulfilment of the course requirement recommended for the award of Master of Business Administration-Hospital & Health Management.

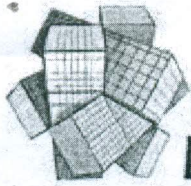
I wish her success in all her future endeavours.



Co!. (Dr.) Ashok Kaushik,
Dean (Academic and Student Affairs)
IIHMR University, Jaipur



Dr. Nutan.P. Jain
(Professor)
IIHMR University, Jaipur



Global Health
Private Ltd.

Date 08.06.15

INTERNSHIP COMPLETION LETTER

This is to certify that Dr. Devanshi Ahuja, student of MBA (Major in Hospital & Healthcare Management), Batch 2014 -16 Institute of Health Management Research, Jaipur has successfully completed her internship with us.

- Project Title - 1. Revenue leakage in IPD & OPD.
2. MIS dashboard preparation on GDA movement.
- Project Duration - 09th April 2015 to 09th June 2015

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

For GLOBAL HEALTH PVT LTD

Monica

MONICA MUDGAL

SENIOR VICE PRESIDENT & HEAD - HUMAN RESOURCES

Acknowledgement

I, Dr.DevanshiAhuja, a student of MBAHM 19 at IIHMR Jaipur, would like to sincerely express my heartfelt gratitude to:

- Mr.PankajSahni, Chief Operating Officer, Medanta the Medicity, for granting me the opportunity for training.
- Dr.Awadhesh Kumar Dubey, Medical Superintendent, Medanta the Medicity, for granting me the opportunity for training.
- Mr.Ritesh Mittal, Senior Manager, Corporate, Medanta the Medicity, for being my mentor and project guide for the entire period of my training, for helping me improve the quality of my work and for helping me identify areas where I lack and what characteristics I must develop in myself for a future as a hospital administrator for my project in the Admission Department.
- Dr.NutanP.Jain , my mentor at IIHMR Jaipur, for his support and guidance, without which this training would not have been possible.
- Dr. Ashok Kaushik, Dean, Academic and Student Affairs, for his invaluable inputs and guidance for my projects, as they helped me to develop a line of thought for how to shape my project.
- Mr.Dalbir Singh, Placement Officer, IIHMR Jaipur, for facilitating my training at Medanta the Medicity.
- Lastly, I would like to thank my college, IIHMR Jaipur, for providing me with an opportunity to learn from and work with the best personnel in the Hospital Industry, and for helping me gain an appreciation of where I currently stand as an administrator and how much work I would need in order to meet the quality specifications that the hospital industry seeks.

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1.Introduction

The summer training is an integral part of the course curriculum of MBAHM at IIHMR Jaipur. As part of the course, students at the end of their first year are required to undergo training of two months to get an in-depth exposure to the various departments in the organization, as well as take up projects as per the requirements of the organization where the students get training. What is most crucial is to build a base of knowledge about the structure and functioning of the hospital, which can be used to understand and apply concepts in the subsequent study tenure at IIHMR Jaipur.

During my summer at Medanta – The Medicity, Gurgaon, there were numerous learning experiences. These were enhanced due to the projects undertaken at the hospital, which are listed as follows:

- *A study of compliance in medical record documentation of departments in Medanta, The Medicity*
- *Preparation of MIS dashboard of the movement of general duty assistants in Medanta, The Medicity*
- *A study of the revenue leakage in the IPD and the OPD of the Medanta, The Medicity*

A brief report of the training of two months is presented below with the details of tasks undertaken and lessons learnt during the training.

2.Organization Profile

Medanta the Medicity, a multi-super-specialty hospital, is one of India's largest healthcare projects in multi-specialty tertiary care medical treatment, and has been envisioned as an institute that will redefine standards of excellence in healthcare delivery by bringing together the best of infrastructure, technology, training, education and medical intelligentsia. With an investment of over \$350 million, Medanta the Medicity aims to create a world class education and training centre backed by remarkable infrastructure, futuristic technology and the extraordinary vision of the eminent cardiac surgeon, Dr Naresh Trehan – Chairman and Managing director of Global Health Private Limited (GHPL).

Located across 43 acres, Medanta is the new international healthcare destination in the National Capital Region of New Delhi – Gurgaon. Medicity is a 1250 bed medical institute at par with world standards. The objective of the Medicity is to bring in global healthcare delivery standards at affordable prices, while firmly placing India on the international

roadmap as a premier destination for healthcare services, medical research and high-end medical diagnostics.

Specialties covered

Medanta provides integrated primary, secondary and tertiary care services spanning over 29 super specialties and high-end services covering every aspect of human health, housing 10 Institutes, 8 Divisions and 11 Departments.

- Institutes
 - The Medanta Heart Institute.
 - The Medanta Institute of Neurosciences.
 - The Medanta Bone & Joint Institute.
 - The Medanta Kidney & Urology Institute.
 - The Medanta Cancer Institute.
 - The Medanta Institute of Digestive & Hepatobiliary Sciences.
 - The Medanta Institute of Minimally Invasive Surgeries.
 - The Medanta Institute of Transplant & Regenerative Medicine.
 - The Medanta Institute of Critical Care & Anaesthesiology.
 - The Vattikuti Institute of Robotic Surgery.
- Departments
 - Department of Clinical Immunology & Rheumatology.
 - Department of Pathology & Laboratory Medicine.
 - Department of General Surgery.
 - Department of Internal Medicine.
 - Department of Dental Surgery.
 - Department of Physiotherapy & Sleep Medicine.
 - Department of Transfusion Medicine (Blood Bank).
 - Department of Pediatric Gastroenterology, Hepatology & Liver Transplantation.
 - Department of ENT & Head Neck Surgery.
 - Department of Physiotherapy & Rehabilitation.
 - Department of Ophthalmology.
- Divisions
 - Division of Endocrinology & Diabetes.
 - Division of GI & Bariatric Surgery.
 - Division of ENT & Head Neck Surgery.
 - Division of Peripheral Vascular & Endovascular Sciences.
 - Division of Gynaecology & Gynaec-oncology.
 - Medanta Breast Services.
 - Division of Plastic, Aesthetic and Reconstructive Surgery.
 - Division of Radiology & Nuclear Medicine

The unique things about Medanta- TheMedicity are-

- Medanta aims to functionally integrate within one campus and one management, the facilities of medical care, teaching as well as research and development.
- It also offers to explore the possibility of integrating knowledge of traditional and alternative medicine with modern medicine, through means of scientific research.
- Medanta the Medicity is led by DrNareshTrehan, one of the leading luminaries in the medical world. DrTrehan is a recipient of various national and international awards for excellence, including the highest national awards, Padma Shri and Padma Bhushan, in recognition of his distinguished service to the nation.
- Dr.Trehan has also served as the personal surgeon of the President of India since 1991 and was formerly the President of the International Society for Minimally Invasive Cardiac Surgery (ISMIC)
- The Medicity team has attracted some of the most distinguished names in medical and non-medical fields from all over the world.

Education

An initiative is currently underway of building a full-fledged medical college, the objective of which is to produce highly competent general physicians and specialists who would be socially sensitive and fully committed to the principles of medical ethics. This establishment would also make every attempt to erase the dividing line between clinical and non clinical areas.

Research and Development

The Medicity will have a state-of-the-art research and development centre integrated with the hospital and the teaching establishment. It is planned to be one of the best funded, staffed and managed medical R&D centre in the country. Its Research Advisory Committee will consist of 12 members from amongst the best known names in modern biology, including various areas of medicine.

Traditional Medical practices

An important objective of Medicity is to validate- and integrate with modern medical system – those medical practices in our traditional and complimentary systems of medicine such as Ayurveda, Unani, Siddha, Tibetan and Tribal Systems that are compatible with science.

Vision and Values

‘The Institution is governed under the guiding principles of providing affordable medical services to patient with care, compassion and commitment

Technology

- 256 Slice CT
- Brain Suite, Intra-Operative Imaging Operating Theater
- Da Vinci Robot for Minimal Invasive Surgery
- Artis- Zeego Endovascular Surgical Cath Lab
- 4 Linear Accelerators (provision for IGRT/ IMRT) (Radiation Surgery)

- Tomotherapy
- Integrated Brachytherapy Unit with remote controlled HDR
- 3.0 Tesla MRI
- PET CT
- Gamma Camera
- Digital X-Ray, Fluoroscopy, Bone
- Densitometry
- 3D and 4D Ultra Sound
- Digital Mammography

Affiliations

- Medanta the Medicity has entered into a corporate alliance with 'Duke Medicine' with the objective of providing a platform for high end research practices and clinical trials.
- The Medanta Duke Research Institute (MDRI is a world class early phase clinical research facility at Medanta the Medicity. MDRI guarantees to offer an environment conducive for exploring the technologies of traditional medicines in synchronization with modern medicine aids for research and development in the areas of healthcare and health recovery.
- It is proposed to be a 60-bedded facility built in an area of 27,000 sq. ft. within the premises of Medanta. To unlock its potential, MDRI will be undertaking immediate early phase clinical studies in three countries with diverse populations.
- The results of such a research will be paramount for all subsequent studies that can play a decisive role in changing the face of healthcare across the world.

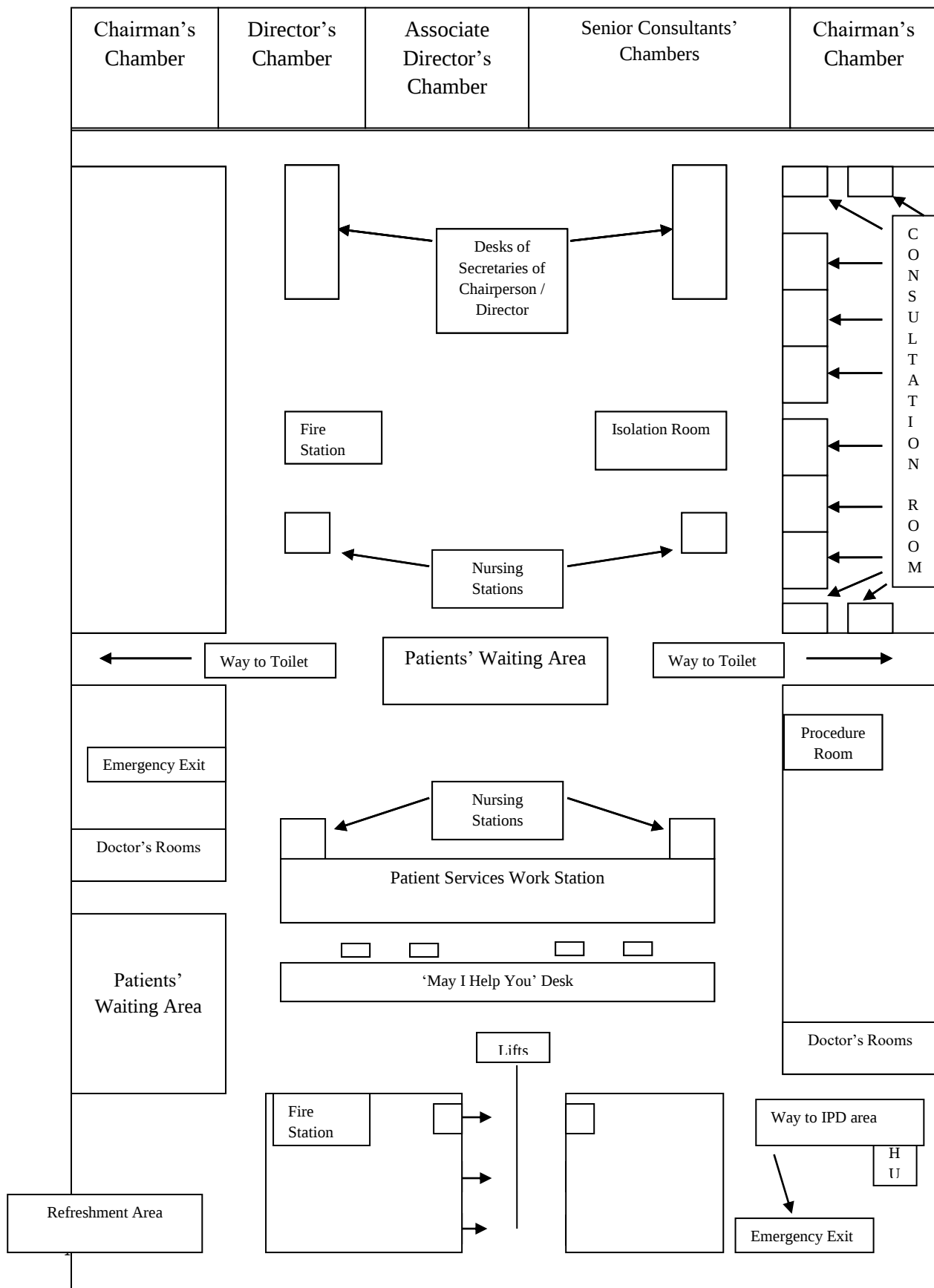
3. Observational study-

I will attempt to present my general findings in the form of process flow sheets, in the order of my visit to the departments.

a) OPD:As has been mentioned earlier in this report, it can be said that each floor of Medanta houses a separate institute of clinical excellence. Each institute has its own OPD area as well as IPD area / day-care area wherever applicable.

The number of OPDs varies from institute to institute, but each OPD has approximately been planned in the same way. A sample layout of an OPD is as follows.

Figure 2: OPD Layout



Each floor has its own OPD. However, the 10th floor and the 12th Floor have Day care facilities as well. Every floor has a procedure room and its own Front Desk. Appointments are centralized and are recorded on the Hospital Information Management System. As soon as appointments are fixed, a text message is sent to the patient confirming the appointment, and a reminder message is sent on the day before the appointment. No walk-in patient is turned away, and the staffs try to accommodate these patients between the appointments already scheduled for the day. The daily volume is of approximately 2000-2500 patients across all the OPDs. Each floor has the capacity to handle 70-100 patients waiting. For Chairpersons and senior doctors, a junior doctor does the initial assessment of the patient, which not only reduces the workload of the senior doctors (whose slots are always overbooked), but it also gives the junior doctors an opportunity to learn from the best brains in the industry.

b) Operation Theatre

The OTs of Medanta the Medicity are situated on the 1st floor. There are currently 23 OTs functional. Their break up is as follows:

Sr. No	OT Number	Specialty
1.	1-7	Cardiac OTs
2.	9A, 9B	Ortho OTs
3.	10, 11	Neuro OTs
4.	12 A, 12B	Liver Transplant OTs
5.	14, 15, 16	GI and General OTs
6.	17, 18, 19	Uro OTs
7.	20, 21, 22	ENT, Head and Neck, and Plastic Surgery
8.	Upper Ground Floor OT	Mixed, but majorly for Gynae and Emergency cases

Table 1. Number of operation theatres and their breakup

Around 70-80 surgeries are performed daily.

c) **Blood Bank**

The licensing details of the Blood Bank at Medanta the Medicity are as follows.

Sr. No	Parameter	Details
1.	License Number	67-B (H)
2.	Date	30/11/2009
3.	Validity	5 years
4.	Name of the items on License	• Whole human blood. IP • Concentrate Human RBC (Packed RBC) IP • Platelets concentrates,USP • FFP,BP • Plateletpheresis / Leukapheresis using cell separator • Cryoprecipitate
5.	Name of the competent technical staff	• Blood bank officer • Technical supervisor • Technicians • Registered Nurse
6.	Licensing authority	Haryana State Drugs Controller Under section 1940, Form 28C- Rule 122-G

Table 2 -Licencing details

The Blood Bank of Medanta the Medicity is situated on the Upper Ground floor. Medanta has a policy of asking patients to arrange for a specific amount of blood before their procedures, so that there is no possibility of a situation arising where there is a shortage of blood during a procedure.

Instead of beds, the blood donation area had couches where patients are asked to sit and the incline of reclining can be changed as per need. Blood donation consists of WB donation and Platelet Apheresis donation. After the whole blood is collected, the blood is split into separate components, and is stored in walk-in fridges after proper labelling. The blood bags are labelled according to the following legend:

Sr. No	Blood Group	Label Colour
1.	B	Red/ Pink
2.	A	Yellow
3.	O	Blue
4.	AB	White
5.	RH +ve	Black
6.	RH –ve	White

Table 3. Blood bag labelling

After splitting, the individual components can be stored for differing periods of time. Whole blood can be stored for 35-42 days, platelets can be stored for 5 days in agitators at temperature of 22 degrees Celsius, Fresh Frozen Plasma can be stored for up to 1year at a temperature below -50degrees Celsius and RBC can be stored for 4-6 days.

d) Emergency Department

The Emergency Department of Medanta the Medicity is situated on the Upper Ground floor, and the entrance is from a route different than the main entrance to the hospital.

The Emergency Department at Medanta the Medicity receives about 100 cases per day. It is divided into areas as has been enumerated below.

S.No.	Area	Specifications			
		No. of cubicles	No. of beds + trolleys	Mortalities /month	Others
1	Triage	10	10+10	3-9	-
2	Observational area	08	08+08	10-12	-
3	Day care	06	06+02	NIL	Recliners-04
4	Heart command	19	19+00	15-16	-
5	Procedure room	-	01+01	-	-
6	Emergency OT	-	-	Variable	OT's- 2

Table 4. Areas of emergency department

The patients coming in to the emergency department are triaged according to the Australasian Triage Scale. These patients are then allotted wrist bands for colour identification according to the parameters that have been enumerated below.

COLOR	INDICATION
White Band	Inpatient
Red Band	Allergy
Yellow Band	Diabetes/Kidney disease No I/V prick No measurement of BP
Blue Band	Vulnerable/ High Risk patients

Table 5. Patients wrist bands colors.

The Emergency Department of Medanta the Medicity offers ambulatory services, the details of which have been enumerated below.

Sr. No	Parameters	Details
1.	Number of Ambulances	8
2.	Types of Ambulances	• Basic life support • Advanced life support • Air Ambulances
3.	Air Ambulance	• Non Scheduled passenger air ambulance • 40-50 patients are brought in by through this method every month
4.	Air Ambulance Staff	• Anesthetist • Cardiologist • Emergency medical officer • Nurse

Table 6.Ambulatory services

e) Endoscopy

This department is situated on the 11th floor of Medanta the Medicity. On an average, 40-50 procedures are carried out per day, the details of which are as follows:

- 20-25 are endoscopy
- 10-12 are colonoscopy,
- 5-8 are EUS
- 5-8 are ERCP's.

Total time taken for endoscopy inclusive of the patient preparation time is around 45 minutes in which the procedure time of endoscopy is actually just 5 minutes. For EUS, the procedure time is 30-40 minutes and for ERCP the procedure time is 20-30 minutes

f) Radiology

The Radiology department is situated on the upper ground floor of Medanta the Medicity. The general process flow of the Radiology Department is as has been enumerated below.

g) CSSD

The Central Sterile Supply Department of Medanta the Medicity is situated on the lower ground floor. It is spread over an area of 1250 sqft and is the biggest CSSD in the Asia Pacific region. This CSSD is capable of catering to all the requirements of the hospital. The various areas of the CSSD, along with a list of the activities that take place in each department are as -

Sr. No	Area	Functions
1.	Receiving Area	All the infected instruments are received and their quantity is verified.
		They are washed under water and in ultrasonic cleaners.
		These instruments are then dried with an air gun and subsequently put in a Yorco oven for complete drying.
		All instruments are then put into a washer-disinfection machine. This machine is equipped with double doors in order to facilitate collection directly from the processing area.
2.	Processing Area	This area receives cleaned instruments and in this area, the instruments are separated by the personnel according to the checklists.
		The instruments thus separated are put into trays which are wrapped with a double layer for infection control.
		These trays are then labelled and thrillium indicators are put on these trays as a measure of the quality of sterilization.
		The sterilization method is selected according to the instruments in question. The methods of sterilization that may be used are LTSF (low temperature steam formaldehyde) or Plasma Sterilization.
3.	Sterile Area	All the sterilized instruments are collected in the sterile zone through the doors of the sterilization equipment opening in that area.
		These equipments are separated according as per the quantities received from each department and are put on separate racks.
		Low temperature and positive pressure is maintained in this area for infection control.
4.	Issue Area	Instruments are sent to the OT directly from the sterile area through a lift in the issue area to prevent any kind of cross contamination.
		All the other instruments are loaded on to covered trolleys and are then sent to the issue areas of specific departments, to be issued as and when required.

Table 7. CSSD Areas

h) Dietetics, and Food and Beverages

These offices are situated in the lower ground floor of Medanta the Medicity. These departments are tasked with managing the dietary needs of the patients coming into the hospital. This task is made all the more difficult by the fact that the hospital caters to the needs of over 1200 patients (beds) per day. The enormity of this task can be appreciated by the fact that most five star hotels are able to handle only up to 600 clients per day, and the Food and Beverages Department of this hospital has to be able to serve close to 7000 meals per day.

In order to be able to cater to the delicate yet crucial needs of all the patients coming in to the hospital, most of the Food and Beverage functions are outsourced (the company to which the functions are outsourced shall hence be referred to as the 'Partnering Company'). All heavy equipments in the kitchen are property of GHPL Pvt. Ltd, and the Partnering Company has the responsibility of bringing in only light equipment like cutting knives, etc. All such light equipment are colour coded in order to prevent cross-contamination, so, for example, the equipment used for cutting poultry (coded yellow) will not be used for cutting fish (coded blue).

With respect to ensuring quality of services, GHPL Pvt. Ltd maintains service level agreements with the Partnering Company, and both strive jointly towards maintaining the quality standards. Both GHPL Pvt. Ltd. and the Partnering Company have representatives present on each floor, and these representatives jointly keep a check on any issue that may crop up on a floor.

The Dietetics department is tasked with the specialized function of ensuring that a patient is not presented with a meal that may not be in compliance with the treatment that the patient has come to Medanta for. To be able to deliver on this front, the dietician's role includes checking the diet of all the patients periodically, going on rounds of the patients with the chairpersons, solving patient queries related to diets, planning the diets of the patients and coordinating with the kitchen in order to ensure the provision of the right quality food to the patients.

Finally, these departments also maintain a chart of the amount of food wasted per day (wasted food is discarded) and thus, a strict control is maintained on the inventory of all food items.

i) Marketing

This department is situated on the lower ground floor of Medanta the Medicity. The chief function of this department, as the name suggests, is to market the services of Medanta the Medicity.

Medanta is now at such a stage of its life cycle that it need not indulge in extensive marketing activities. Medanta the Medicity is a brand name recognized internationally, which is evident from its large international patient base. In fact, this brand is so well known that Medanta the Medicity has not even invested in large billboards (to be erected on top of the building) and does not spend too much on Out-Of-Home advertising. This hospital does have a strong presence on Facebook, and is followed on Facebook by many.

This uniqueness of the hospital lies in the services that it offers, and the quality of services offered. This is why most of the marketing that this hospital enjoys is through 'word of mouth'. The clinical team employed at Medanta the Medicity is among the finest in the Asia Pacific region, and the technology used here is among the finest in the world. All these factors have come together to make Medanta the Medicity the strong brand it is.

A majority of the activities of the marketing department comprise of CSR initiatives. Medanta the Medicity has partnered with a number of charitable organizations and conducts periodic camps in various areas. Medanta has acquired a mobile van titled 'Sanjeevan', which is used to carry out camps in distant areas. This van is equipped with all modern diagnostic facilities, and includes equipment for Mammography, X-Ray and other facilities.

j) Engineering

The Engineering department is situated on the first basement of Medanta the Medicity. This department is responsible for catering to all the electrical needs of the entire hospital. The Engineering department is responsible for centrally providing water, electricity and air to the entire hospital. Eighty percent of the Engineering Department is outsourced, and the staff employed by Medanta the Medicity is tasked with supervising the functions of the outsourced staff and ensuring that quality work is delivered, as these requirements of water, electricity and air are crucial to any enterprise, and especially in hospitals.

The engineering department of Medanta the Medicity has employed 6 generators of 2000kva, to provide electricity back-up to the entire hospital.

k) Cath Lab: The Cardiac Cath Lab is situated on the third floor in the IPD area. There are a total of four Cath Labs and one DSA Lab.

l) Radiation Oncology

This department is situated on the lower ground floor. It has an Integrated Brachytherapy Unit (IBU) for intra operative and post operative treatments for cancer related to the cervix and soft tissue sarcomas along with prostate seed implants. The procedure rooms have been made keeping in mind the AERB (Atomic energy regulatory board) standards.

Innovative techniques such as Robotic Radio Surgery with the world's first Cyberknife VSI system; Image Guided Radiotherapy (IGRT) with X-Ray Volume Imaging are some of the super-specialty treatments offered by this department of Medanta the Medicity.

m) Intensive Care Unit

The distribution of the Intensive Care Units of Medanta the Medicity is as has been enumerated below.

ICU Number	Details
ICU 1	22 beds, (16 for Cardiac and 6 for Pediatric)
ICU 2	22 beds, (CTVS)
ICU 3	22 beds, (General 10, Neuro Surgery 10, Dialysis 2)
ICU 4	22 beds, (liver Transplant 8, Gastro+GI 14)
ICU 5	24 beds, (Medical ICU 18, General Paediatrics 6)
Ortho ICU	12 beds
HCC	18 beds
ICCU	22 beds, (CTVS 12, Cardiac 4, Kidney Transplant 6)
Pre and Post Cath Lab	26
HDU	10th floor (10 beds)
	Total Beds = 200 beds

Table 8. ICU in hospital

n) In-Patient Department

Each clinical institute of Medanta the Medicity has its own In-Patient Department. Thus, there is an In-Patient Department in each floor of Medanta the Medicity..

o) Medical Records Department

The Medical Records Department of Medanta the Medicity is situated on the lower ground floor of the hospital. This department is tasked with storing all the physical medical records generated in the hospital. Once a medical record is received by the department, a unique reference number is generated through Microsoft Excel, and the medical record is stored according to this number. MLC records are stored in a yellow file, and the records of expired patients are stored in a red file.

The Medical Records Department maintains the records of each patient file it receives for a period of 5 years. During this period, if a certain file is requested for reference/research purposes by any department of the hospital, the clock of storage is restarted. Apart from these functions, the personnel of the Medical Records Department may also be required to attend to calls from the courts of law, with the files of any patient as and when required.

p) In-Patient Pharmacy

The In-Patient Pharmacy of Medanta the Medicity is situated on the lower ground floor. This department is tasked with handling the responsibility of helping ensure that the correct medication is available with the IPDs of all clinical departments at all times. The medicines procured by the In-Patient Pharmacy are decided by the Pharmacy and Therapeutic Committee of this hospital.

The IPDs of all departments use a system of indenting to procure medication. These indents are sent to the In-Patient Pharmacy as and when required by the IPD. The indents are then ranked according to urgency by the dispensing pharmacist and these medicines are taken out from the stores and the change in quantity of the inventory these medicines is recorded by the pharmacist.

There are 4 types of licenses maintained by this department, obtained from the Excise Office, Gurgaon, with regard to the retail and wholesale of the following:

- Narcotics
- Denatured Spirit

- Morphine
- Fentanyl (2ml and 10ml)

The In-Patient Pharmacy department maintains 16 days worth inventory of medicines with it for emergencies, and ensures that medicines are returned to vendors 3 months prior to their expiry.

q) Dialysis

The Dialysis unit is situated on the 12th floor. There are 12 dialysis machines and the number of cases done per day is around 55 cases (45 OPD + 10 IPD)

r) Housekeeping

This office of this department is situated on the lower ground floor of Medanta the Medicity, and is tasked with managing the sanitation needs of the patients coming into the hospital. This task is made all the more difficult by the fact that the hospital caters to the needs of over 1200 patients (beds) per day. The enormity of this task can be appreciated by the fact that most five star hotels are able to handle only up to 600 clients per day.

In order to be able to cater to the delicate yet crucial needs of all the patients coming in to the hospital, most of the Housekeeping functions are outsourced (the company to which the functions are outsourced shall hence be referred to as the 'Partnering Company'). All the cleaning material is the property of GHPL Pvt. Ltd. The Stores of Medanta the Medicity issue cleaning material to the personnel on the different floors as per levels decided through an exercise that was conducted, to ensure that such material is not wasted. Any extra requirement requires permission and explanation. This exercise had been conducted to determine the room-wise and floor-wise requirement of cleaning inventory.

With respect to ensuring quality of services, GHPL Pvt. Ltd maintains service level agreements with the Partnering Company, and both strive jointly towards maintaining the quality standards. Both GHPL Pvt. Ltd. and the Partnering Company have representatives present on each floor, and these representatives jointly keep a check on any issue that may crop up on a floor.

s) Medical Gases

This department is situated on the first basement of Medanta the Medicity. This department's chief responsibility is to ensure the timely provision of all the medical gases wherever they may be required. This department is responsible for the inventory control of the following gases:

- Oxygen
- Carbon Dioxide
- Nitrous Oxide
- Vacuum (for suction purposes)
- Medical Air

This department is also responsible for maintaining inventories of the cylinders that may be used during patient transport. The colour coding of these cylinders is as has been enumerated below.

Sr. No	Item	Colour Code Used
1.	Oxygen	White
2.	Nitrous Oxide	Blue
3.	Vacuum	Yellow
4.	Medical Air	Black
5.	Carbon Dioxide	Grey

Table 9 .Color coding of the medical gas cylinders

The cylinders have a black body, but the top of the cylinder of the cylinder is painted according to the above legend. The pipes used for transporting these gases within the hospital also follow the above colour coding.

4. Specific Project Learning

These projects were assigned to me by Mr.Ritesh Mittal, the Senior Manager corporate office of Medanta :

- i) Medical record documentation audit in quality.
- ii) Revenue leakage in IPD and OPD.
- iii) MIS dashboard in movement of general duty assistants in the hospital.

.i) Medical record documentation audit in quality-

INTRODUCTION- Medical record of each patient has to be maintained. It is maintained by two ways majorly- a) hospital information system b) a medical record file .A medical record file has every information about the patient condition and its treatment. Thus a medical record file must have a clear documentation of the patient stay in the hospital and the work done by the clinical staff. This is done as per the JCI (Joint Commissionaire International). The medical record file may be an active file or a discharge file.

OBJECTIVE- To find the key non-compliance areas in the forms in the medical records.

METHODOLOGY-

- Study area – 2 major specialties and 3 minor specialties.

Major specialties- Nephrology, Internal medicine.

Minor specialties- Gynaecology, Thoracic surgery, vascular surgery

- Sample size- 8 files per specialty.
- Audit methodology-
 - Speciality wise files taken
 - Files audited and compliance calculated by two ways -

1.) By form (per form in each file)

2.) By per medical record file

- Compliance is seen and marked as by the filling of the form duly (not note: if there was any part of the form which is not required, it must be cut and **not left blank**)

Non-compliance = 1 – Compliance

- The files taken had the following forms which were categorized in 4 categories as –

CONSENTS:

-  General consent
-  Surgical consent
-  Anaesthesia consent
-  Blood consent

ASSESSMENTS:

-  IP initial assessments within 1 hr- By Doctor

By Nurse

- ✚ IP initial assessment
- ✚ Consultant verification within 24 hrs
- ✚ ER initial assessment
- ✚ Nutritional assessment

TREATMENT FORMS-

- ✚ Pre operative evaluation
- ✚ Per operative evaluation
- ✚ Post operative evaluation
- ✚ Medication administration record

NOTES-

- ✚ Progress notes
- ✚ OT notes
- ✚ Physiotherapist
- ✚ Discharge summary
- ✚ ER summary

A checklist was made according to the JCI standards which were mandatory for each record. (The checklist is given in the annexure)

The next step was to analyze the compliances seen. Excel was used for making the data entries in the checklist. Either a Y for yes or N for no was put. The number of Y's and N's was calculated and thus analysis was done. For example-

Specialty:

internal medicine

	3/4/2015
Total # of files audited	8
Overall Specialty compliance to medical records (average):	81.76%

COMPLIANCE BY FORM

General Consent	100%
ER Initial assessment	60%
IP initial assessment - 1 hr by Nurse	100%
IP initial assessment - 1 hr by Doctor	88%
IP initial assessment - consultant verify in 24 hours	25.00%
Progress notes	87.50%
Pre-op evaluation	100.00%

Per-operative monitoring	na
Post-operative instructions	0.00%
Surgical consents	0.00%
Anaesthesia consents	100.00%
Nutritional assessment	100.00%
Blood consent	NA
If a surgery has been performed, check if there is an OT Note in pt. file?	na
OT Note	na
Is OT note prepared before transfer out of Post-op or transfer in to ICU	na
Post surgical plan of care by surgeon within 24 hrs of surgery	na
Physiotherapist notes	NA
Discharge summary	100.00%
Emergency care summary	NA
Medication Admin. Record	62.50%

COMPLIANCE BY EACH PATIENT FILE AUDITED	
Total forms / components audited	26
Medical record 1	60.00%
Medical record 2	90.00%
Medical record 3	88.89%
Medical record 4	77.78%
Medical record 5	88.89%
Medical record 6	81.82%
Medical record 7	77.78%
Medical record 8	88.89%

It was done likewise for other specialties too.

Then a report in the form of presentation was given to the head of the departments to bring under their notice the status of their departments in record keeping.

Keeping up with the right documentation of the patient records is a guideline for patient safety. Though there may be manual errors some time but those must be corrected and dealt with as much as possible.

ii)Preparation of MIS dashboard of GDA movement in the hospital for the installation of a software named ‘Teletracker’ for the smooth movement of the patient movement and the proper utilization of the GDA’s(general duty assistants).

INTRODUCTION -A management information system is used to provide the management with the needed information on a regular basis. This system can be manual or computer based. The term implies order, arrangement and purpose. Further an MIS focuses specifically on providing the information and not merely the data.

So the data was collected and processed so that the right information is available to the vendors of the “teletracker” software right when they need it. An MIS has organised data in some meaningful way and converts it into the information.

OBJECTIVES-

- To study the current pattern of patient movements occurring within the hospital.
- To study the key performance indicators of the general duty assistants.

METHODOLOGY-

- Study type- cross sectional analytical.
- Study area – the in-patient transport staff (general duty assistants) of the Medanta the Medicity.
- Study duration- 8 days
- Sample size- 726 transfers. (Out of 3250 transfers occurring in the 8 days duration).
- Data collection- primary data was collected manually. The data required was the time the general duty assistants are taking in the transport of patients to various locations. Therefore the following checklist was given to the general duty assistants .they were asked to fill the time in the paper checklist.
- Secondary data collection – the entry registers maintained by the general duty assistants .
- Sampling method- simple random sampling
- Steps taken-
 - **Understanding**the current process and scenario

- **Analysing** the relevant data
- **Interpretation** of analysis outcomes

UNDERSTANDING THE CURRENT PROCESS AND SCENARIO-

TPT GDA (Transport General duty assistants)

Personnel involved in the transfers of inpatients in the hospital.

Type of trips

One way-

Trips in which GDA picks the patient from a start location and drops at the destination location and comes back to the pool.

e.g. - ward to USG, endoscopy, ward to ICU, ward to OT etc.

*Note – may involve handover to other GDA or to the staff nurse at the destination.

Round trips-

Trips in which the GDA has to wait with the patient all along and drop the patient back at the start location.

e.g. –ward to x-ray, ward to EECp, ward to radiation oncology.

Earlier the general duty assistants were a centralized system i.e. they were made to sit at one place and the nurse called them for the patient transfer but was unable to find them. Now the scenario had been changed since the month of February. The GDA's were divided into four groups for the inpatient transfers according to the floors. four pools of GDA were created which served a set of floors. As the structure of Medanta has been discussed above , the inpatient ward are starting from 5th floor and going until the 15th floor. These floors have two wing the A wing and the B wing.

Distribution of GDA'S-

Total deployed – Day shift – 76(floors) + 4(pharmacy) = 80

Night shift - 20

POOL	FLOOR COVERED	NO . OF GDA's DEPLOYED
11 TH B	10 th B , 11 th B , 12 th B , 14 th B, 15 th B	18
12 TH A	10 th A , 11 th A , 12 th A	15
9 th A	6 th A , 7 th A , 8 th A , 9 th A	19
9 th B	5 th B, 6 th B , 7 th B , 8 th B , 9 th B	24

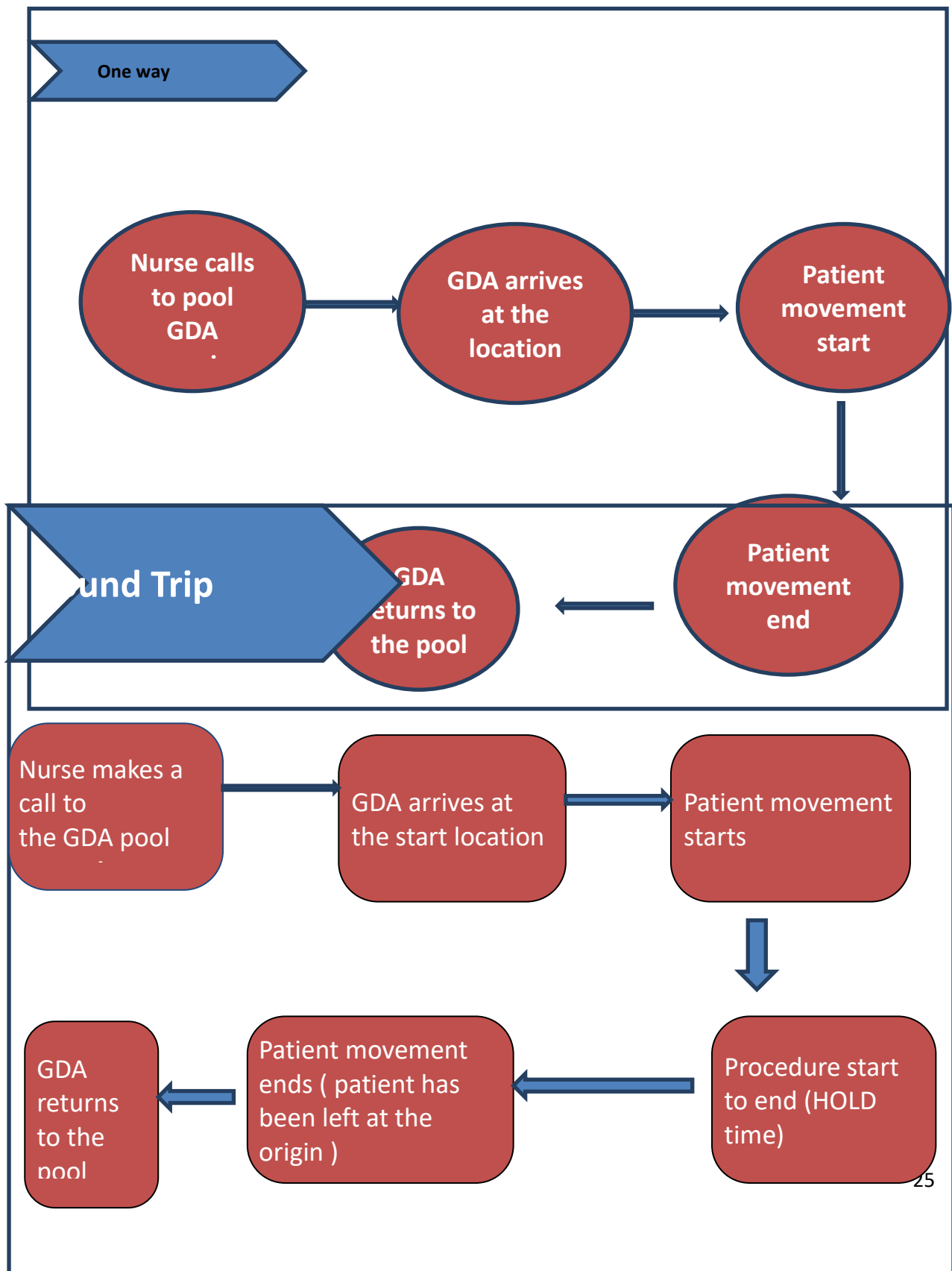
Table 10.number of general duty assistants in every pool and no. of floors covered by them for IPD patient transfers.

PHARMACY- 4 GDA S's are deployed in the day shift only.

IN THE NIGHT- there are 20 GDA'S which cover all of the floors and see the activities like transfer of patients and scrubbing of the patients . The pool for the night stays at 11th B.

Each pool has a supervisor who receives the calls from the nurse and allots the trips to the GDA's.

PROCESS FLOW FOR ONE WAY AND ROUND TRIPS-



Assumptions:

- i. It will take the GDA roughly the same amount of time to go from the patient origin location to the destination location as to come back from the destination to the origin location with the patient (only applicable for the round trips).*
- ii. The time taken for the GDA to return back to its pool after leaving the patient to its origin location after the completion of the procedure is roughly the same as the response time (i.e. the time taken by the GDA to arrive at the location after nurse call time) (applicable only on round trips)*
- iii. In round trips, the patient movement end time is assumed to be the time when GDA leaves the patient back to the origin.*

DATE	From	To	Nurse call time (1)	GDA Arrival time at source location (2)	Pt. movement start time (3)	Pt. movement end time (4)	GDA return time (5)	Pool / Base station (6)	shift
21/5/2015	Usg	4005	21:01	21:05	21:10	21:50	21:53	Night pool	Night
21/5/2015	CT Scan	4014	1:10	1:12	1:13	1:30	1:32	Night pool	Night
20/5/2015	5027	4022	15:38	15:44	15:52	15:55	16:00	12th A	Day

Table 11.Data entry in the above way.

Analysis done-

time required for GDA to reach location=wait time for nurses A = (2-1)	wait time /dead time for a gda B = (3-2)	Physical trip time per patient C = (4-3)	Time taken for GDA to return to origin D = (5-4)	One way / Round trip	Total TAT	bed moves
0:04	0:05	0:40	0:03	One way	0:49	Not sure
0:02	0:01	0:17	0:02	One way	0:20	Not sure
0:06	0:08	0:03	0:05	One way	0:17	Y

Table 12.Analysis done of the collected data

The analysis done gave three types of indicators-

- 1) Volume indicators
- 2) Effectiveness indicators
- 3) Efficiency indicators

Indicators	METRIC	APRIL					MAY		
		Week 1	Week 2	Week 3	Week 4	Overall Month	week 1	week 2	week 3
1.VOLUMES									
1	Total movements	4375	5080	5390	5540	22962	5027	5119	5338
1a	Avg. movements/day	625	726	770	791	765	718	731	763
2	Total movements - day shift	3594	4193	4446	4544	18913	4367	4225	4293
2a	Avg. movements - day shift	513	599	635	649	630	624	604	613
3	Total movements - night shift	781	879	944	996	4049	971	802	826
3a	Avg. movements - night shift	112	126	135	142	135	139	115	118

2.EFFICIENCY		May (15-23)	Time in minutes
1	Total reschedules / cancellations	61 in 842 transfers	
1a	Reschedules / cancellations %	7%	
2	Total # of jobs delayed (> 10 min) at source	154	
2a	% of Jobs delayed at source	21%	
2b	Average delay time	0:07	7
3	Average hold time for round trips	53-(4+6+10+10+4)	19.00
4	GDA Utilization	48%	
3.EFFECTIVENESS			
1	Average trip time - one way trips	0:27	27
1a	Average response time (nurse call to GDA arrive)	0:05	5
1b	Average delay time (GDA arrive to start)	0:05	5
1c	Average movement time (start to end)	0:15	15
2	Average trip time - round trips	0:53	53
2a	Average response time (nurse call to GDA arrive)	0:06	6
2b	Average delay time (GDA arrive to start)	0:07	7
2c	Average movement time (start to end + end to start)	0:26	26
2d	Average return time (movement end to return)	0:08	8

Table 13. Key performance indicators of the general duty assistants

Types of movement details	
1	GDA + pt (on any = bed/wheel chair) drops the pt. GDA comes back receives call from destination goes to destination and brings pt. back to source
2	GDA + nurse+pt. drops the pt. comes back with nurse if hand over<15 min receives call GDA + nurse+pt. come back
3	GDA + pt (any) waits for the procedure comes back with pt.
4	GDA + nurse + doctor+ pt (on bed) drop the pt. come back
5	GDA + nurse+ doctor + pt wait for procedure come back with pt.
6	GDA + nurse + pt. waits for the procedure comes back with pt.
7	2 GDA's go OR 1 GDA +1 nurse + vacant bed GDA takes the pt. on bed come back with pt.
8	GDA + nurse + pt. drops the pt. come back without pt.

ANALYSIS 3BY LOCATION-

Source	Purpose of movement	Destination locations	Average trip time	Number of trips	Average delay per location
Ward	Diagnostics	usg	15	67	0:07
		ct	14	50	0:07
		mri	17	19	0:06
		xray	22	60	0:08
		PFT- 5th OPD	28	26	0:08
		3rd opd-echo	19	35	0:08
		4th opd	16	4	0:13
		6th opd	33	11	0:09
		DSE	20	6	0:07
		8th opd	37	22	0:06
		9th opd-echo	15	20	0:09
		11th opd	15	7	0:05
		12th opd	16	8	0:05
		pet ct	25	17	0:07
		endo	8	50	0:06
	Treatments	ir	9	41	0:06
		pre op	21	65	0:07
		dialysis	11	13	0:07
		cath lab	12.5	19	0:07
		eecp	86	3	0:05
		radiation oncolgy	53	7	0:05
	Others	Discharge	14	67	0:06
		Ward	11	17	0:06
		ICU	9.5	18	0:05

Table 14. Time taken by GDA's to take the patients to above locations.

OTHER ANALYSED INDICATORS-

Median response time - round trips

Average trip time (origin to destination) - round trip time	0:04	4
Average trip time (destination to origin) - round trip time	0:10	10
round trip time movement for GDA utilization 20+4(response time)	0:10	10
average one way movement time 14+4	0:24	24
average trip time - day	0:18	18
average trip time - night	0:18	18
average delay - night	0:15	15
average delay - day	0:05	5
	0:07	7

Table 15. Other indicators (time) of GDAs

Summary

- There are approximately 700 movements that are occurring in a day (i.e for a period of 12 hrs) while approximately 120 in the night(12 hrs period).
- There are 96 GDAs in the day time while 20 in the night time. therefore number of IPD patients a GDA transports are 7.2 in the day time while 6 patients in the night time over a period of 12 hrs.
- The average time currently been taken by a GDA per transfer is 27 minutes for a one way trip and 53 minutes for a round trip.
- There are certain delays or cancellations that are occurring in the transfer process. This leads to patient discomfort (due to waiting). Also it has a ripple effect on the other patient who are in que if a patient gets delayed. The study observed 7 % of the transfers on an average were cancelled.
- The GDA and the nurse work in coordination for the transfer of the patient. So when the nurse puts up a request for the patient to be taken the GDA has to arrive in no time at the location from where the patient is to be carried. This is the **response time** of the GDA. Also the nurse has to make the patient ready for GDA to transfer. This is the time a GDA has to wait while the nurse readies the patient. This is called the **wait time** for the GDA. The average response time is 5 minutes while the wait time is also 5 minutes.
- If the delay or wait time is more than 10 minutes the transfer is considered to be delayed. It was observed that 21% of the transfers were delayed.
- In a round trip , the GDA has to wait for the patient until the procedure is going on. The time GDA has to wait there is the hold time. The average hold time for a GDA in a round trip is 19 minutes. These 19 minutes could have been utilized in other transfers .

- Thus, the GDA utilization is 49% which means there is underutilization of the human resource.
- This can be increased by installing a system which eliminates the problems faced by the GDA's of low network problems as they have a mobile. Secondly they have to return back to their pool for another trip. This costs them more time. Also the holding time in the round trips is a big hindrance in their utilization.

iii) Revenue Leakage In The Hospital

INTRODUCTION- A hospital is a healthcare institution that provides complete medical care ranging from diagnostic services, to surgery and nursing long-term care. Hospitals typically have two types of patients: inpatients and outpatients. Inpatients are patients who stay overnight and seek long-term care. Outpatients are patients who stop in for a day and leave once they are treated. Whatever are the procedures that are being done on the patients incur some costs. And so, the hospital charges the patients for the services being provided. This basically leads to the revenue generation in hospitals. It forms a vital role in the smooth functioning of the hospital as well as caters to the growth of the hospital as it has to bring in funds to continue its revenue cycle and also expand and specialize more and get advanced with the changing technology and thus provide the best healthcare possible. Thus there has to be a constant vision on this part. Thus, Medanta – The Medicity hospital wanted to check for its revenue leakage. To do this, a consultant company Ernst & Young was hired to do an analysis of the revenue generated in the hospital.

OBJECTIVE-The main objective of the study was to determine the loss suffered by the hospital by the non-billing of the various procedures in IPD and OPD.

STUDY TYPE— An analytical cross sectional type of study was done. a period of 10 days were taken from 1st March to 10th March

STUDY AREAS-1) OPD- out patient department

2) IPD- in patient department

-My arena of work included the outpatient department which was analysed basically on the number of investigations prescribed and out of those which got billed in the hospital. MRI (magnetic resonance imaging technique) was majorly seen as the revenue generating area for the OPD.

METHODOLOGY- The whole of the OPD data was provided to me in an excel sheet. This data was stored in the Hospital information system. The data was of span of three months i.e. it had data from 1st Jan till 31st of March.

Out of those I filtered out the patients that attended neurology and neurosurgery clinic as these were the patients which had high probability of being prescribed MRI investigation.

Then, out of those random selection of the encounter ids was done and their prescriptions were seen in the hospital information system. It was seen that the date of the visit was to be

matched with the dates investigation prescribed as the OPD patients usually have two to three visits on an average. This was done until when there was a sample of 30 patients who were prescribed MRIs was collected.

Then, another excel sheet was seen which had all the data regarding the billed investigations. Thus by taking the 'vlookup' function it was seen that whether the patients returned to the hospital for the investigations or not.

OBSERVATIONS –

It was observed that out of 30 patients which were prescribed MRI, 22 returned back.

For the 22 patients who returned back for MRI—hospital suffered no revenue loss. But for those 8 who didn't return back for MRI—hospital did suffer revenue loss

Then, a survey was conducted for these 8 patients who didn't return back so as to understand the loopholes if there were any on hospital's side. (Their contact numbers were taken from their information stored in the hospital information system of the hospital. These were contacted by the customer care executives)

They were basically asked for the reason of not returning back to the hospital for the investigation. 2 answered for long waiting time as the reason, while 4 answered distances, 2 didn't answer. Out of these three reasons, long waiting time was the reason that is to be considered by the hospital as it is a parameter which can be corrected if dealt in the right manner.

Therefore these two are the ones which could have been retained in the hospital if long waiting time is addressed.

To calculate the loss suffered by the hospital, the following approach was observed-

Daily MRI = 70-80

Average charge of MRI- 7500

2 in 30 can be retained, so by applying simple mathematics, almost 4 in 70 can be retained.

Thus, loss per day = $7500 \times 4 = 30,000$

Loss per year - $30,000 \times 300 = 90,00,000$ rupees. (*300 days are the number of working days in the hospital)

• Thus, revenue loss per year—0.7– 2 crores.

RECOMMENDATIONS-

- Redesign the process for various service providers.
- Training of the nurses.
- Consumables +services automaticprompt in the system.
- Periodic audits, compliance daily/ weekly.

5. Annexure-

Audit checklist-

Date:					
Auditor:					
Form		Medical record 1			
		Room #:			
		UHID:			
		Pt. name:			
		Specialty:			
		Yes	No	NA	Defaulter
General					
Consent	Remarks				
ER initial					
assessment	Remarks				
IP initial assessment					
	Remarks				
Is IP initial					
assessment done in 1 hr - Nurse	Remarks				
(check SNTD)					
Is IP initial					
assessment done in 1 hr - Doctor	Remarks				
(check SNTD)					
IP initial					
assessment verified by consultant	Remarks				
in 24 hrs (check SNTD)					
Progress Notes					
(sample size: any 10 notes)	Remarks				
Pre operative					
evaluation	Remarks				
Peri operative					
monitoring	Remarks				
Post operative					
instructions	Remarks				
Surgical consent					
1	Remarks				
Surgical consent					
2	Remarks				
Surgical consent					
3	Remarks				
Anesthesia					
consent -1	Remarks				
Anesthesia					
consent -2	Remarks				
Anesthesia					
consent -3	Remarks				