

**Summer Training at
Fortis Hospital, Mohali
(April - June, 2013)**

- 1. Reducing Patient Waiting Time in Outpatient Department**
- 2. Revenue Generation: Study on Efficiency of Outpatient department**
- 3. Reducing Delays in Admission and Discharge process in Inpatient Department**

**By
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**Under the guidance of
Dr. Rahul Ghai**

**Post Graduate Diploma in Hospital and Health Management
2012-2014**



**Institute of Health Management Research,
Jaipur
2013**

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CERTIFICATE

This is to certify that Dr.Kirandeep Kaur Tiwana, student of Post Graduate Diploma in Hospital and Health Management (PGDHM) from Institute of Health Management and Research, Jaipur has undergone Summer training in Fortis Hospital, Mohali, from April 1st to June 11th, 2013.

The candidate has successfully carried out the study assigned to her during summer training and her approach to study has been sincere, scientific and analytical.

I wish her success in all her future endeavor.


Dr Rahul Ghai

Faculty and Mentor
IIHMR, Jaipur


Dr. Ashok Kaushik

Dean, Academics and Student affairs
IIHMR, Jaipur

11-Jun-13

TO WHOM SO EVER IT MAY CONCERN

This is to certify that **Dr Kirandeep kaur Tiwana** has completed her Training, at Fortis Hospital, Mohali, from **1-Apr-13 to 11-Jun-13**.

The projects undertaken by her during the training period were:

"Revenue Generation- A study on the efficiency of OPD."

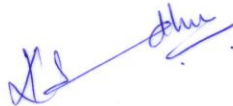
"Reducing waiting time in OPD."

"Reducing Delays in Admission and Discharge Process in IPD."

She possesses a keen observation and conducts herself with confidence.

We wish her success in her future endeavors and pursuit of her career goals.

For Fortis Hospital



Kanwal Sandhu
Deputy Manager-Human Resource



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I am extremely indebted to all the professionals at Fortis hospital, Mohali for sharing generously their knowledge and precious time which inspired me to do the best during summer internship. I am grateful to all the department heads and staff for giving me guidance in spite of their hectic schedule. Without their active participation and cooperation it would not have been possible to accomplish my task.

I would like to extend my regards to **Dr Kaushik** (Dean Academic and student affairs),

Brig. S.K.Puri, Mr Vijay Pratap Raghuvanshi for their valuable guidance.

I would like to sincerely thank my mentor, **Dr Rahul Ghai** for consistent encouragement and support during my summer internship.

Dr Kirandeep Kaur Tiwana

FORTIS HOSPITAL

MOHALI

“Fortis Healthcare Limited” the leading, integrated healthcare delivery provider in the pan Asia-Pacific region was incorporated in 1996, founded by visionary leader, **Late Shri Dr.Parvinder Singh**, the architect of Ranbaxy Laboratories.

The healthcare verticals of the company span diagnostics, primary care, day care speciality and hospitals, with an asset base in 10 countries, many of which represent the fastest-growing healthcare delivery markets in the world. Currently, the company operates its healthcare delivery network in India, Australia, New Zealand, Hong Kong, Vietnam, Singapore, Mauritius, Dubai, Sri Lanka and Canada with 75 hospitals, over 12,000 beds, over 600 primary care centres, 191 day care speciality centres, over 210 diagnostic centres and a talent pool of over 23,000 people.

The hospital network in India includes multi-speciality hospitals and super-speciality centres providing comprehensive tertiary and quaternary healthcare to patients across specialities such as Cardiac Care, Orthopaedics, Neurosciences, Oncology, Renal Care, Gastroenterology and Mother & Child Care.

VISION:

Globally respected healthcare organization recognized for clinical excellence and distinctive patient care.

MISSION:

“To create a world class integrated healthcare delivery system in India, entailing the finest medical skills combined with compassionate patient care.”

With a vision to provide the state of Punjab world class cardiac and multi-speciality care, **Fortis Hospital Mohali** came in **2001** and was quickly a focal point of healthcare for the residents of North India.

Fortis Hospital, Mohali,Punjab, set on a sprawling 8.22 acres of land, is a 355 bed(291 operational), **JCI and NABH** certified multi speciality tertiary care hospital, with accomplishments in high end procedures like Remodelling, Paediatric Arterial Switch Operation, Total Knee & Hip Replacement ,Aortic Anueurysm,Tumor Surgery , Congenital Diaphragmatic Hemias , Kidney Tumour Removal and Racial Dissection for Oesophageal Cancer .

The hospital has been designed and equipped with the latest technology, Information Technology systems, a telemedicine programme and carefully selected doctors, nurses and support staff. Bringing breakthrough technologies to the operating room, the hospital is continuously setting the highest International standards in as many as 26 Medical specialities. Taking the concept of personalised care to the next level the hospital maintains 1:1 patient to nurse ratio in ICUs and ICCUs.

The hospital has won several awards:

- FICCI Healthcare Excellence Award for Excellence in Healthcare Delivery, 2009
- CII Healthcare Award for Commitment to Excellence, 2011
- Dr Pratap C Reddy's Safe Care Award for Best Infection Prevention Initiative, 2011

Working relentlessly towards patients' satisfaction, the organisation is passionately involved in each process of qualitative improvement, adding new disciplines, dimensions and domains into the fabric of healthcare, with 'quality' certainly the keyword. It is the COO and MD of Fortis Hospital Mohali, Mr. Shivinder Mohan Singh (the first COO of FHM) and his carefully hand-picked team of administrators, along with a top notch medical faculty who make the organisation vibrant, dynamic and upwardly mobile. Fortis Health Care has adopted a **"Total Patient Centric Approach"**.

The hospital, which was awarded the best design award by the American Institute of Architecture in 1999, has the following salient marks:

- Multi-speciality Medical Centre with day care facilities.
- Outpatient care to fulfil the medical demands.
- NABL certified path lab.
- State of art blood bank.
- Ultra-modern operation theatres with laminar flow and shadow less lighting.
- 24 hrs emergency Ambulance service.
- A dedicated emergency and trauma centre.
- Mohali's only 24 hr chemist shop.
- Free home collection of pathology samples.

OBJECTIVES: The following are the objectives of summer training;

Broad

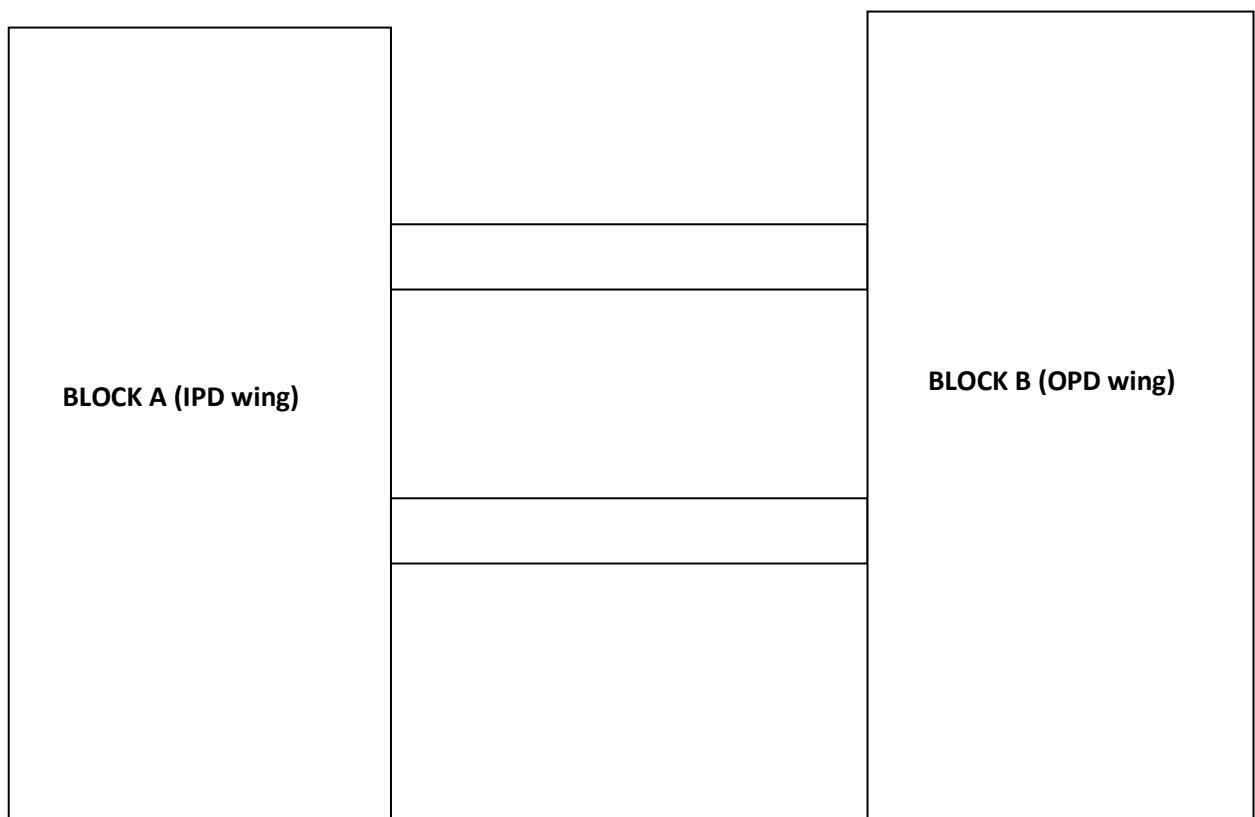
- To get an exposure and understand the operational management of the organisation (Fortis Hospital Mohali)

Specific

- To acquaint with the various departments and functioning of the organisation

- To study special tasks assigned by the organisation.

Layout of Fortis Hospital Mohali



Location

The hospital has outpatient wing (Block B) and in patient wing (Block A) with different entrance and the two connectors bond these two wings within the hospital.

OUT PATIENT wing (Block B)

Ground floor

- Front Office
- Radiology
- Pathology
- Nuclear Medicine
- Multi Speciality Chains
- Physiotherapy
- Clinical Nutrition & Dietetics
- Food and Beverages

First floor

- Dialysis
- Non-Invasive Cardiology Labs
- Cardiac OPD
- Multi Speciality Clinics
- Multi Speciality OT's

Second floor

- Cardiac Operation Theatres
- Cardiac Catheterization Labs
- Orthopaedics OT
- Pharmacy

Third Floor

- Administrative wing
- Quality Assurance
- Marketing Department
- Finance Department
- Information Technology Department
- JAMJAJEE (Refractory)
- Training Centre
- Auditorium
- Director's Chamber

In Patient wing (Block A)

Ground floor

- Front office
- IDBI Bank
- Blood Bank
- Emergency
- General Intensive Care Unit
- Patient Welfare Department
- Palnaa (Labour Room)
- Prayer Room

First floor

- Ward A1 and A2
- Medical Intensive Care Unit

Second floor

- Cardiac Ward
- Coronary Care Unit
- Surgical Intensive Care Unit

Third floor

- Ward A3
- Fortis Nursing School
- Library

Basement

- Human Resources
- Material Department
- CSSD
- Medical Record Department
- Housekeeping
- Engineering and Biomedical Management
- Security

Specialities

Fortis Hospital Mohali offers the most comprehensive medical treatment across a wide range of medical specialities. Driven by patient centric health service, technology and research, the hospital is setting international standards in as many as 29 medical specialities.

Apart from the cardiac super speciality, the medical faculty at Fortis Hospital Mohali comprises of highly experienced consultants in all major specialities. A dedicated, skilled team of doctors and surgeons provide quality healthcare with utmost care and compassion.

SUPER-SPECIALITY HEART

1. Cardio Thoracic and Vascular Surgery (Heart Surgeries)
2. Invasive Cardiology
3. Non-Invasive Cardiology

MULTI-SPECIALITY

1. Anaesthesiology
2. Cardiac Surgery and Vascular Surgery
3. Dermatology and Dentistry
4. Clinical Nutrition and Dietetics
5. Endocrinology
6. ENT and Ophthalmology
7. Gastroenterology and General Surgery
8. Gynaecology
9. Internal Medicine and Medical Oncology
10. Interventional Radiology and Imaging
11. Minimal Access Surgery
12. Neurology and Neurosurgery
13. Nephrology and Urology
14. Nuclear Medicine
15. Orthopaedics and Joint Replacement
16. Paediatrics
17. Cosmetic, Plastic and Reconstructive Surgery
18. Physiotherapy
19. Psychiatry
20. Pulmonology
21. Transfusion Medicine

Service Units at Fortis Hospital Mohali:

Four Service units at Fortis Hospital Mohali are:

1. Clinical
2. Supportive
3. Utility
4. Administrative

Clinical Units

OPD

Opd is functional in 52 rooms on the ground floor and first floor.

The first floor has the front desk which caters to ECHS patients.

PROCESS FLOW

- Patient reaches OPD enquiry counter and takes the coupon of pre appointment case, walk in case, for investigation or for collection of reports.
- Movement of patient towards the front desk counters when the coupon number is displayed.
- Patient guided to the required doctor chamber or laboratory as per the need.
- If the patient seeks consultation with any doctor, first vitals are checked in the nursing station.

OPDs of doctors are managed by the pod coordinators who are required to note the time of arrival of doctor in the OPD chamber, guide the patients' to the doctor, note the time of patient arrival and entry into the doctors' chamber.

Critical Care Units

The intensive care units at FHM are managed by experts in critical care, with patient to nurse ratio of 1:1. Trained intensivists are adept in all emergency techniques such as airway management, providing Intra Venous, Anaesthesia, performing life saving procedures such as chest tube drainage and above all well-trained to deal with cardiac arrest.

- ✓ Surgical Intensive Care Unit (SICU)
- ✓ Coronary Care Unit (CCU)
- ✓ Medical Intensive Care Unit (MICU)
- ✓ Special Intensive Care Unit (SPICU1&SPICU2)

Intensive Care Units have been planned on the same floor where operation theatres and cath labs are located so as to facilitate movement of patient after surgery/procedure in case if any emergency.

EQUIPMENT

All the ICU's at Fortis Hospital Mohali are equipped with the most modern and highly specialised equipment. Some of this equipment, which forms an integral part of the patient care, and sets Fortis Hospital Mohali a class apart, are:

Ventilators

The new critical and life-saving machines are patient and user-friendly with alarms and set-up buttons simplified. There is Siemens 300A ventilator which not only senses whether the patient is breathing spontaneously but also allows him to do so if this is adequate. The same ventilators can be used for adults, paediatrics and neonatal. This dramatically cuts down the time needed on the ventilator and along with better patient management cuts down cost tremendously.

Monitors

Agilent wide screen touch monitors, which are able to provide at least 3 pressure traces along with other parameters such as heart rate, respiration, temperature etc. This is also networked into a central nursing work station so that all the parameters of patients are seen on one screen making access easier. All these monitors are networked through central server and interfaced with HIS. The doctors can view these parameters sitting in their chambers.

ICU Beds (HILROM)

Some of the special features about these beds are that they are electrically operated through remote switches and can be tilted up or down or sideways. It provides ease in the movement of patients from Cardiac OT to SICU and vice-versa. The provision has been made for keeping oxygen cylinders, infusion pumps and syringe pumps without affecting the patient comfort.

Mattress (Ripple Mattress)

Helps in reducing the incidence of bedsores to the patients when he may be lying down in the same position for day's altogether. It operates through an air-pump which deflates and inflates bubbles in the mattress providing comfort to the patient and reducing stress due to weight of the body.

SICU Pendants

These imported pendants from Drager (Germany) are installed next to patient bed, which can rotate up to 270 degree which can provide medical supplies like oxygen,

compresses air, vacuum, electrical outlets (UPS and non UPS). This can house monitors, infusion pumps, syringe pumps. This provides effective space utilization and ease of operation.

Bed Head Panel

Bed Head Panels have been installed in CICU, MICU. They are used for providing services like oxygen, compressed air, and vacuum. There is nurse call system, data and voice outlets in patient rooms.

Intra-Aortic Balloon Pump (IABP)

This Critical and life-saving equipment is used to increase the blood pressure of the patient when it falls down below certain desired limits.

Radiology and imaging department

Facilities:

- 64 slice Cardiac CT
- 1.5 Tesla MRI
- High End USG machine with Doppler
- Mammography
- Image Intensifier
- X ray machines

Treatments offered:

- Coronary Angiography
- CT Coronary angiogram
- Pulmonary angiography
- Peripheral angiography
- M R Spectroscopy
- M R Angiography, etc.

Heart and Vascular Surgery department:

Services offered:

- Coronary Artery Bypass Graft
- Aortic Valve Replacement
- Mitral Valve Replacement
- Double Valve Replacement
- Valve repairs
- Arterial Switch

- Tetralogy of Fallot
- Arterial septal defects
- Ventricular septal defects
- Vascular surgeries
- Thoracic procedures, etc

Neurology and neurosurgery department:

This neurosurgery OT is one of its kinds in the region. It is equipped with Hepa filters and has laminar air flow. The Cavitron Ultra sonic aspirator (CUSA) machine is highly advanced and is used to treat ablation of the tumours. The CUSA machine works on the principle of ultrasonic rays, which are generated by piezo- electric crystals present in the hand piece of the machine.

Main aim is the excision of neoplastic lesions which are firm in consistency and vascular in nature like meningioma, acoustic schwannoma and some dural based lesions.

Renal transplant department

A kidney transplant is a surgical procedure in which a healthy kidney from one person is placed into another whose kidneys have permanently stopped working.

Services offered:

- Living related family kidney donors
- Living unrelated kidney donors
- Cadaver transplantation
- Donor evaluation

Orthopaedics and joint replacement department

Treatments offered:

- Hip replacement surgery
- Total knee replacement
- Elbow replacement
- Shoulder replacement
- Replacement of joints of hands like wrist joints
- Surgeries of the spine for treating problems of the disc, infection, trauma etc

Fully equipped operation theatres:

Operation theatres are at par with the international standards. The OTs has laminar flow systems fitted with HEPA filters to create an infection free environment. In addition to these, the OT is equipped with computerized navigation systems and high flexion implants.

This department is backed by Physiotherapy and rehabilitation centre. Corrective surgery treatment for congenital disorders like residual polio is also available.

Sports Medicine centre:

This department is armed with a dedicated clinic for treating sports- related injuries with the emphasis on core strengthening therapy helping sportsmen to quickly regain their peak performance.

Emergency medicine department:

The department handles a lot of patients. About 40% of the monthly hospital admissions are from this department. One unique feature is the ambulance service and pre hospital care provided. Two ACLS ambulances equipped with essential equipment like oxygen, ventilator, monitors, syringe pumps and emergency drugs are available round the clock. A trained doctor and a nurse accompany the patient for each ambulance call.

Services offered:

- Upon the arrival in ER patients typically undergo a brief triage or sorting to help determine the nature and severity of their illnesses. Individuals with severe illness are given priority.
- After initial assessment and treatment the patients are either admitted or discharged or transferred to another hospital.
- The patient is kept till initial stabilization and necessary documentation, initial blood sampling etc are completed.

Clinical nutrition and dietetics department:

This department is responsible for the development of nutritional care in compliance with the physician's orders. The primary role of the department is assessing the nutritional status of the patients and recommending diets.

Services offered:

- Revitalization after an illness, as part of treatment
- General fitness
- Specific health illness e.g. diabetes

- Co ordination with the concerned departments for the patient's meals
- Cross checking of implementation

Physiotherapy and rehabilitation department:

Services offered:

- Cervical and lumbar traction
- Pulsed and continuous short wave diathermy
- Microwave therapy
- Interferential therapy
- Ultrasound therapy
- Laser therapy
- Ice packs, etc

Lab medicine:

Services offered:

- Biochemistry
- Haematology and coagulation
- Microbiology
- Serology
- Clinical pathology
- Histopathology
- Interventional pathology

UTILITY SERVICES:

Food and beverage

Location: ground floor block C

Functions:

Service of food for patients: this takes place in patients' rooms through service room trolleys and therapeutic diets are prepared and served on the basis of Dieticians advice. Qualified service staff in the main block and Rehabilitation block carries out Service.

Meals served are:

Bed tea

Breakfast

Mid morning tea/coffee/soup/snacks

Lunch

Evening tea/coffee/snacks

Dinner

Milk service

Service of food for fortis staff: fortis staff is served meals in the dinning area located on the third floor. Block B.

Meals prepared for the staff are as follows:

Breakfast

Mid morning tea/snacks

Lunch

Afternoon tea/snacks

Dinner

Midnight tea/snacks

Service of food for contractual staff: there is a cafeteria in the basement, block B where all contractual staff is served the meals.

Service of food for guests

Administrative services:

Marketing department:

Location: Third floor, B block

Finance department:

Location: B block, 3rd floor

Functions:

- Routine finance and accounting functions like maintaining books of account, cash and banking management etc.
- Contract and hospital services accounting
- Management information system
- Closing and finalizing of accounts
- Fixed assets register
- Budgeting
- Costing
- Inventory and purchase accounting
- Salary preparation and disbursement
- Statutory obligations like income tax, sales tax etc
- Purchase accounting

Salary disbursement: salary is paid on the last working day of each month.

Salary reimbursement: all reimbursement claims should be submitted to Accounts department by 25th of every month so that reimbursement may be made on second of the month.

Salary advance: salary advance can be claimed only in case of urgent need. Employees desiring to take a salary advance will make an application to HR department duly approved by department head.

Non medical facilities:

Fortis healthcare inn

Cafe coffee day

Nestle coffee bar

24 hour chemist shop

Gazebo

Business centre

Bank and ATM

Prayer room

Kid's corner.

Revenue Generation: A Study on Efficiency of Out Patient Department

- *Fortis Hospital, Mohali*

Dr Kirandeep Kaur Tiwana

May, 2013

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1. Introduction

Out Patient Department is the one which provides ambulatory care to the patients. It is the most important service provided by a hospital as it thrives to provide healthcare to the people at an affordable cost. The OPD provides facilities for the diagnosis and treatment of patients who do not need hospitalization.

The functions of an OPD are:

1. It provides a quality, nursing care along with minor surgical care to the patients who visit the hospital for consultation.
2. The doctors in OPD provide the initial diagnoses and treatment to the patients.
3. OPD provides a great opportunity for education, research and training to both residents and interns.

OPDs are gaining importance in hospitals these days because of rising cost of healthcare and due to shortage of hospital beds. The aim of any hospital's outpatient department should be to use the doctor's time more efficiently.

AIM

To analyse the revenue generation of the Out Patient Department rooms.

Objective

1. To study the time spent by each doctor in the OPD room in a month.
2. To study the total number of Outpatient department patients seen by each doctor.
3. To study the revenue generation in terms of OPD consultation fees, investigations and procedures.
4. To find the efficiency of OPD rooms in terms of revenue generation.
5. The study includes the empanelled doctors as well as the doctors on roll.

Methodology

The study was carried out on basis of the data collected during the month of March, 2013 (1st to 31st).

The study was carried out for 67 doctors carrying out their duties in the 45 OPD rooms out of the total 52 OPD rooms of Fortis Hospital. The number of patients that visited the doctors during this month was 12,420.

The study aims to help in analysing the most and the least profitable room in terms of revenue generation.

Findings

1. The total revenue of OPD room per OPD hour spent by the doctors is maximum (Rs 20,983) for the room number 118 for the month of March 2013.
2. The total revenue of OPD room per OPD hour spent by the doctor is minimum (Rs78.79807692) for the room number 133 for the month of March 2013.

3. 73.3% OPD rooms have revenue generation below the average revenue generation of all the OPD rooms and 26.7% OPD rooms have revenue generation above the average revenue generation of all the OPD rooms.

4. The maximum total revenue generation is by Dr HJS Gill (12.18% of the total revenue generation) and minimum is by Dr Kanwaljit Chahl (0.0017% of the total revenue generation)

5. 67% doctors have total revenue generation above the average total revenue generation and 34% doctors have total revenue generation below the average total revenue generation.

Total Revenue per OPD Room

The study revealed a vast difference between the revenue generated by the OPD rooms.

The highest revenue earner was room 103 with total collections of INR 28,23,171. The room 103 is used for consultations of Nephrology cases and is used by Doctor H. J. S. Gill.

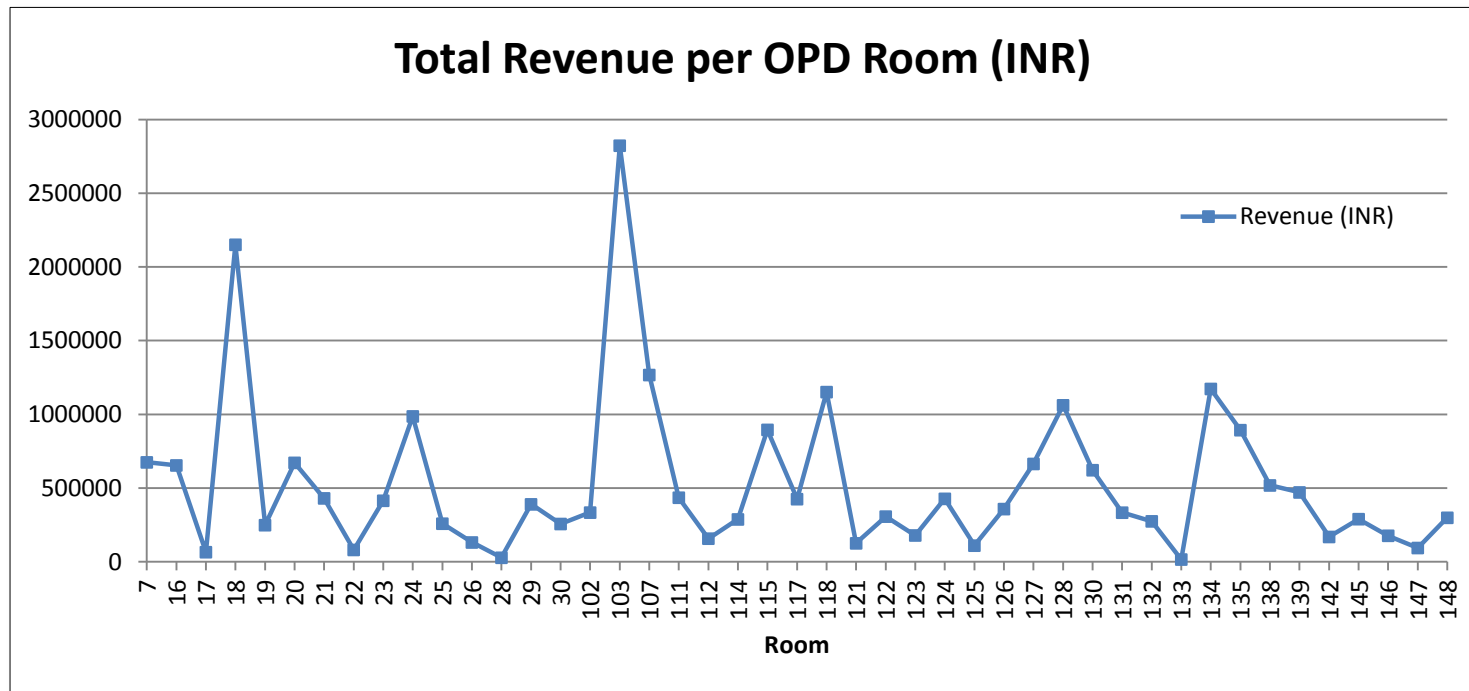
The lowest was room 133, with collections of INR 16,390 per month. The room 133 is used for consultations of Cardiology cases and is used by Doctor Rajat Sharma.

Room No.	Doctor Name	Total Revenue
102	Dr Ranjan	334680.6
103	Dr HJS Gill	2823170.7
107	Dr Ravul Jindal	1267838
111	Dr H K Bali	435705.1
112	Dr J D Wig	157929.5
114	Dr Mahant'S Team	288495
115	Dr Murlidharan	895747.5
117	Dr Mukesh Vats	425975

118	Dr Ashit Syngle	1152025.5
	Dr M Chhabra	
	Dr Avtar Matharoo	
121	Dr N C Raina	126307.5
	Dr Jitinder	
	Dr Swati	
122	Dr Rajan Chug	307645
	Dr Jaivir	
123	Dr Rajeev Kapoor	179688
124	Dr Anish K Gupta	428151
125	Dr R P Doley	110603
126	Dr Atul Joshi	358694.5
127	Dr Rajeev Bedi	664836.4
128	Dr Vishal Bhambri	426948.5
	Dr P Kulhara	
130	Dr Jagmohan Varma	622273.4
131	Dr A S Bawa	334209.5
132	Dr Seema Wadhwa	275377
133	Dr Rajat Sharma	16390
134	Dr Arvind Sahni	1173443.3
135	Dr R K Jaswal	893821.5
138	Dr G S Kalra	518942
139	Dr Swapna Misra	471472.5
142	Dr Sunil Aggarwal	169545
145	Dr Hardeep Singh	290228
	Dr Ambrish Singal	
146	Dr Manish Ahuja	177569.5
	Dr Dilbans Pandher	

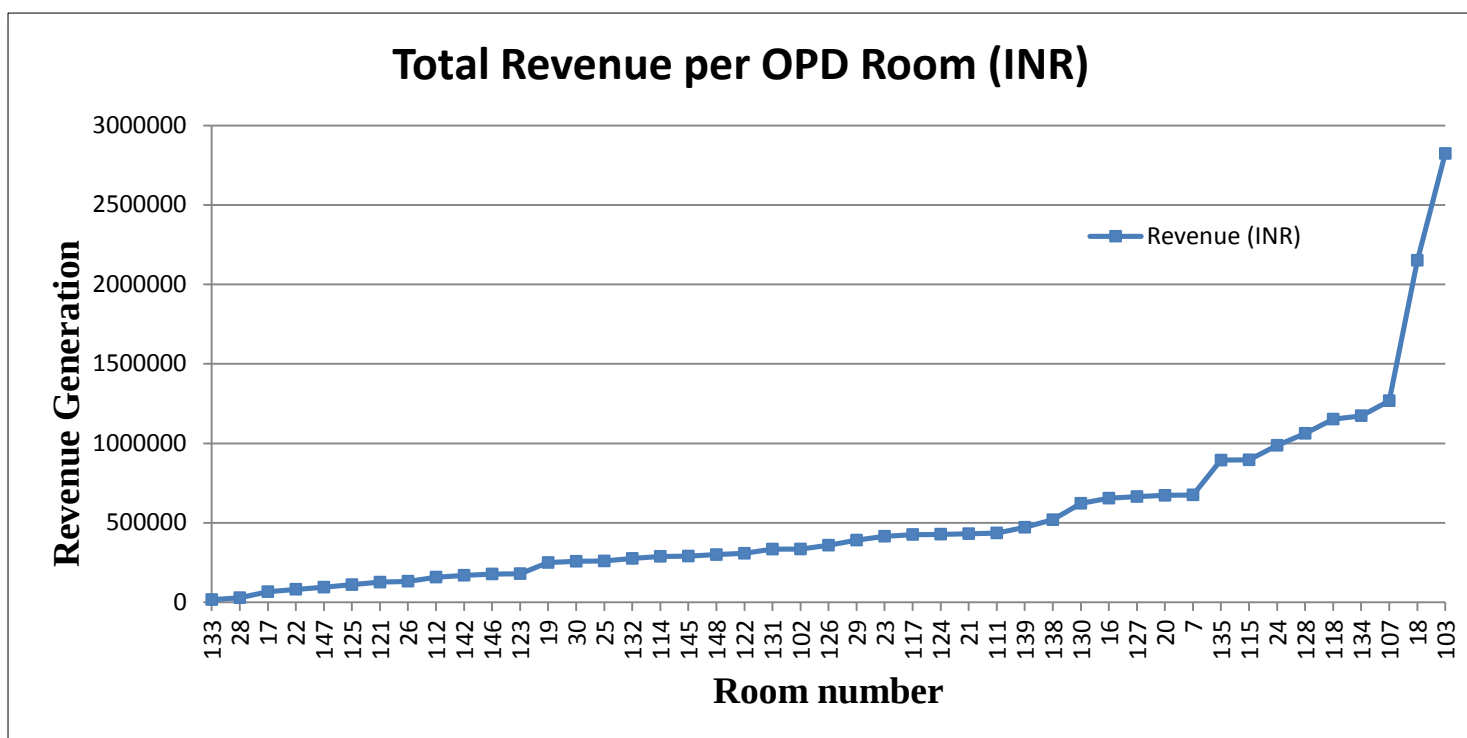
	Dr Anupam Jindal	
	Dr Ashish Dharmik	
	Dr S M Bose	
147	Dr Arun Kochar	94584.5
148	Dr Kanwaljit Chahl	302414.5
	Dr Simmy Waraich	
	Dr Gaganpriya	
7	Dr Manuj	675402.5
16	Dr Mandal	654554.9
	Dr Archita	
	Dr Zafar	
17	Dr Pardaman	66266.5
18	Dr Vikas Bhutani	2151338.5
19	Dr K M Kapoor	249585.1
	Dr Daljit Kaur	
	Dr Paramjit Walia	
	Dr Suruchi	
	Dr Ritu Jaswal	
	Dr Raman Abrol	
20	Dr K P Singh	672246.5
21	Dr Rajesh Chauhan	431160
22	Dr Anil Dingra	81563
23	Dr V K Khosla	415032.5
24	Dr H S Mann	987118
25	Dr Harsimran Singh	259381
26	Dr Suba Rao	132149.5
28	Dr M L Chawla	28463
29	Dr V K Maini	390685.5

	Dr Sarla	
	Dr J P Singhvi	
30	Dr Rashmi	257451.3



Graph 1: Room wise revenue (sorted by room number)

In fact if you look at the graph below, you will observe that apart from room 18 and 103, all other rooms generate collections of less than INR 12,50,000 (approx. figure). Collections by 30 rooms are less than the figure of INR 5,00,000. 9 rooms generate collections between INR 5,00,000 to INR 10,00,000. 4 of the rooms have collections ranging from INR 10,00,000 to INR 15,00,000.



Graph 2: Room wise revenue (sorted by revenue)

Total Revenue per OPD Room per Hour

There is also a difference in revenue generation per OPD room per OPD hour spent by the doctor.

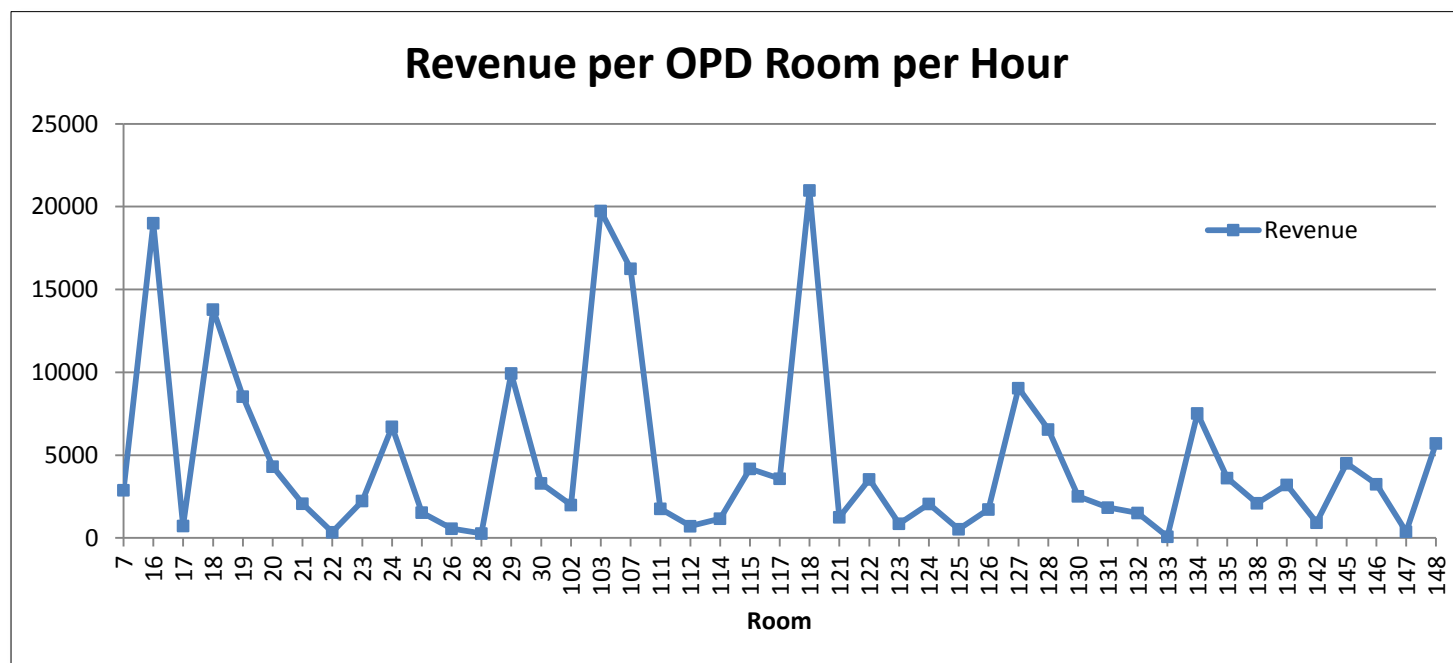
The maximum total revenue per OPD room per OPD hour spent by the doctor is by room 118 with total collection of INR 20, 983 followed by room 103 with the total collections of INR 197, 42. Room 118 is used by Dr Ashit Syngle, Dr M Chhabra and Dr Avtar Matharoo at different OPD timings.

The minimum total revenue per OPD room per OPD hour spent by the doctor is by room 133 with the total collections of INR 78.79. The room 133 is used by Dr Rajat Sharma.

Room number	Revenue of room per OPD hr
102	1992.14
103	19742.45245
107	16254.33333

111	1763.988259
112	714.6131222
114	1167.995951
115	4175.979021
117	3579.621849
118	20983.10317
121	1252.918269
122	3539.869231
123	863.8846154
124	2058.418269
125	531.7451923
126	1724.492788
127	9045.393197
128	6551.688034
130	2519.325506
131	1836.315934
132	1513.06044
133	78.79807692
134	7522.072436
135	3618.710526
138	2100.979757
139	3207.295918
142	926.4754098
145	4511.192308
146	3247.707692
147	382.9331984
148	5713.237692
7	2886.33547
16	19006.01806

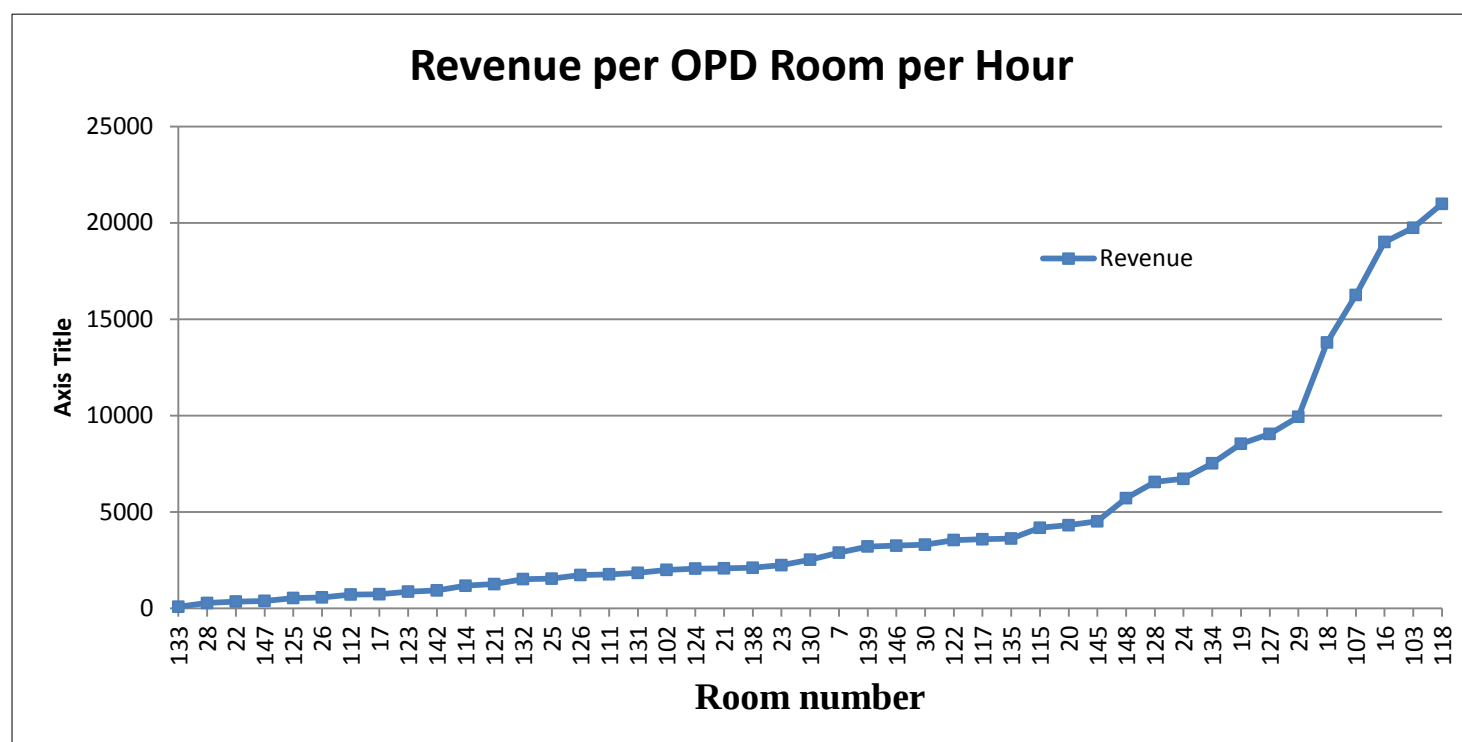
17	728.2032967
18	13790.63141
19	8537.273586
20	4309.272436
21	2072.884615
22	348.5598291
23	2237.371968
24	6715.088435
25	1534.798817
26	564.741453
28	273.6826923
29	9935.471612
30	3300.657692



Graph 3: Revenue per OPD room per OPD hour (sorted room wise)

Looking at the graph below, apart from rooms 118, 103, 16 and 107, all other rooms have revenue generation per OPD hour less than INR 15,000. 33 rooms

have revenue generation per OPD hour less than INR 5, 000. 8 rooms have revenue generation per OPD hour ranging between INR 5, 000 to INR 10, 000.



Graph 4: Revenue per OPD room per OPD hour (sorted revenue wise)

Revenue per OPD Room per Patient

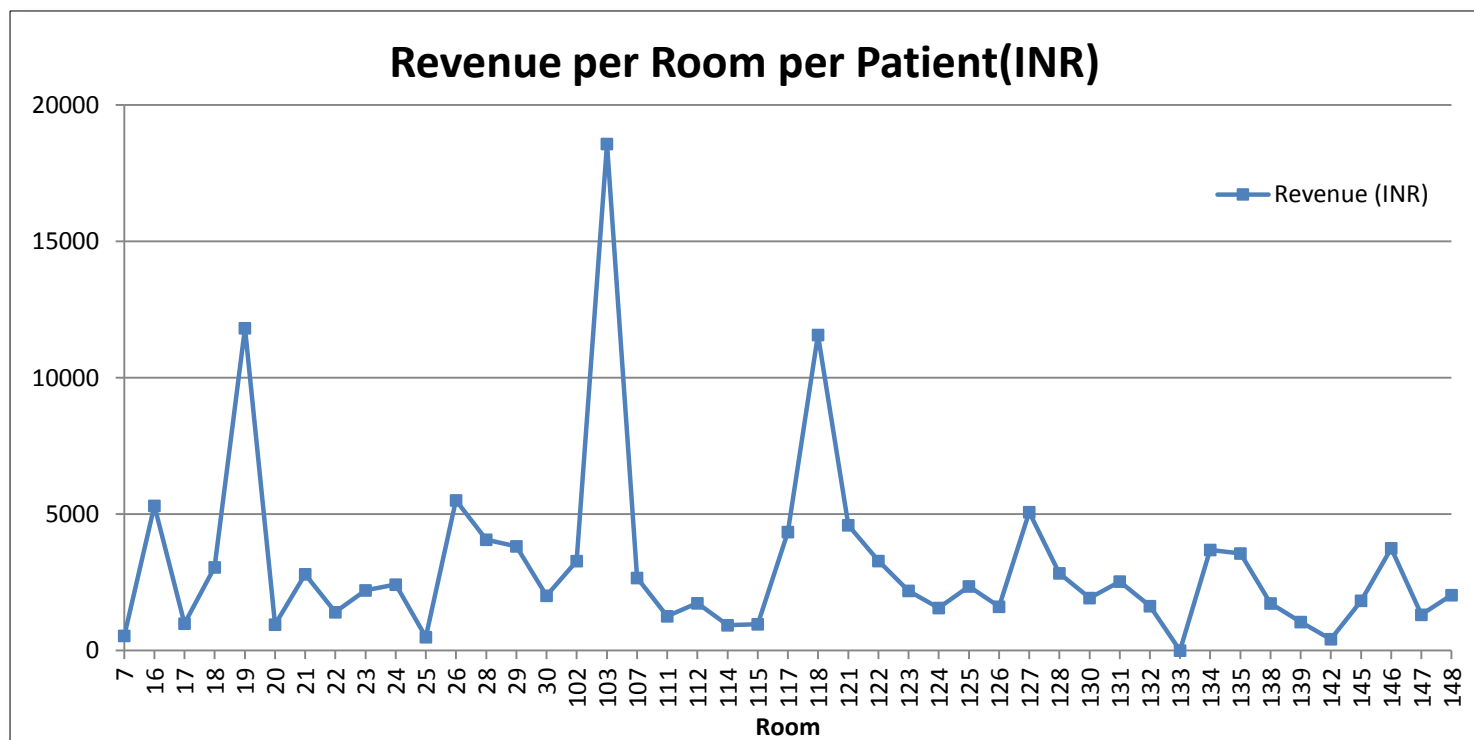
The revenue generation per OPD room per patient is maximum for room 103 with collections of INR 18573. This room is used by Dr HJS Gill.

The minimum revenue generation per OPD room per patient is for room 133 with nil collections. This room is used by Dr Rajat Sharma.

Room number	Revenue of room per patient
102	3281.182353
103	18573.49145
107	2663.52521
111	1259.263295
112	1735.489011

114	930.6290323
115	966.2864078
117	4346.683673
118	11571.33365
121	4596.181818
122	3284.734819
123	2191.317073
124	1562.594891
125	2353.255319
126	1608.495516
127	5075.087023
128	2833.395601
130	1926.543034
131	2531.890152
132	1629.449704
133	0
134	3690.07327
135	3561.041833
138	1729.806667
139	1047.716667
142	418.6296296
145	1828.105339
146	3752.652047
147	1313.673611
148	2033.015649
7	541.6218925
16	5306.893501
17	989.0522388
18	3051.543972

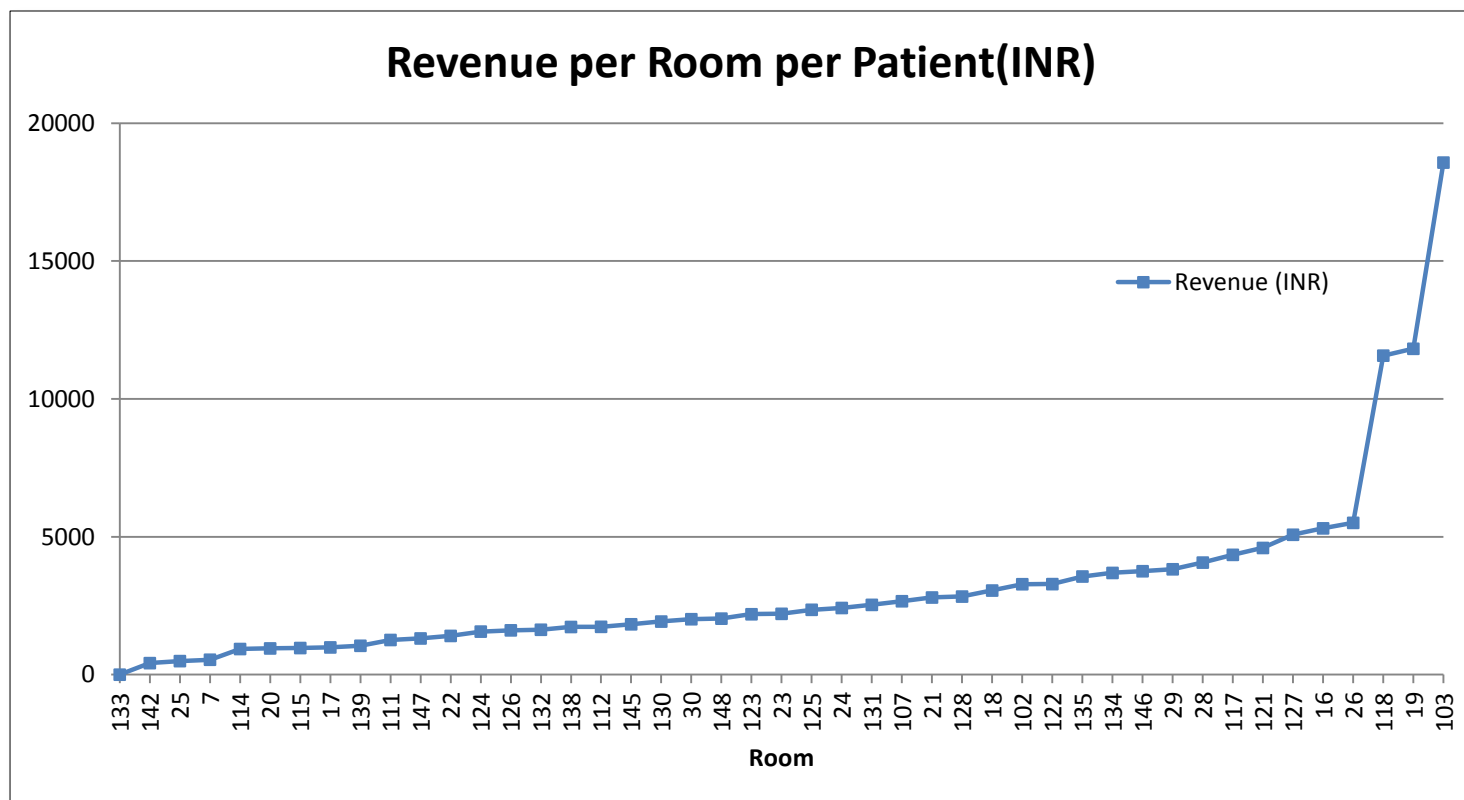
19	11819.75408
20	952.1905099
21	2799.74026
22	1406.258621
23	2207.619681
24	2419.406863
25	492.1840607
26	5506.229167
28	4066.142857
29	3822.851214
30	2011.338281



Graph 5: Revenue per OPD room per patient (sorted room wise)

Looking at the graph below, one can easily see that just 3 rooms i.e. 103, 19 and 118 have revenue generation per patient seen more than INR 10, 000. 3 rooms

have revenue generation per patient seen between INR 5,000 to INR 6,000. 39 rooms have revenue generation per patient seen less than INR 5, 000.



Graph 6: Revenue per OPD room per patient (sorted revenue wise)

Recommendations:

1. The doctors having less OPD patients in a day can have shorter OPD slots.
2. The rooms generating less revenue can be clubbed together.
3. Moreover, the doctors generating less revenue could be filtered out and they could be offered only the IPD rights.

Conclusion

The doctors spent a total of 7,923 hours on the patients. The total revenue generated by the doctors for the above visits/sittings was INR 2, 31, 74, 109.

A further comparing study of similar type by comparing two OPD's of similar nature.

Limitation

1. Study is carried out only in Fortis hospital Mohali.
2. Duration was less- only for 1 month.
3. The study did not include the revenue generation through day care surgeries.

Reducing Waiting Time in Out Patient Department

- A Study in Fortis Hospital, Mohali

Dr Kirandeep Kaur Tiwana

May 31, 2013

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1. Introduction

An outpatient is one who receives medical attention at a hospital without getting admitted to indoor patient department (IPD); he does not spend a night in the hospital. Out Patient Department caters to all those ambulatory patients who come to the hospital for diagnosis, treatment and follow-up. Routine health check-ups are also done at OPD. The patients are treated in OPD till the time they are fit to go back home or admitted to an indoor facility.

OPD is called the 'shop window' of hospitals. The way a shopkeeper puts his best in the shop window, hospitals should also make a conscious effort to provide best services in public areas. Everything should be done to create an atmosphere of friendliness and warmth. Competence to deal with situations efficiently should reflect in mannerism of the staff.

An outpatient department is the first point of contact with the hospital -

- It is a link in the chain of various departments of healthcare facilities
- It contributes to the reduction in morbidity and mortality by early diagnosis and treatment
- It's a platform for health promotion and disease prevention as the target population is easily available.
- It acts as a filter for inpatient admissions, ensuring that only those patients are admitted who are most likely to benefit from such care, thus, conserves scarce beds.

Importance of OPD care is increasing day by day because of high cost of hospital care, scarcity of hospital beds and economic considerations. This is the most important service provided by a hospital as it serves the need of many at an affordable cost. A well organized and efficiently run OPD has an important role to play in providing medical care where hospital beds are inadequate.

Nowadays, OPD services of many hospitals are having queuing and waiting time problems. Patient's waiting time refers to the time from the registration of the patient for appointment with doctor till the time the patient enters the doctors' chamber.

2. Common problems encountered in the OPD at Fortis Hospital, Mohali

1. Large number of patients waiting to be served outside the doctors' chamber
2. Unpunctuality by the doctors in keeping their first appointments.
3. Overlapping of Surgeons' O.T. and O.P.D. timings
4. No blocking of schedule of doctors for regular rounds and lunch

Thus, the main objective of the O.P.D. of a hospital should include reduction of patients' time in the system, improvement on customer services and better use of available resources.

Waiting time in OPD in the hospitals is a major problem. Waiting time is important as 'customers' are the 'patients' in the hospitals.

3. Objective

1. The objective is to increase patient satisfaction through fast consultation with the doctors without any delays.
2. The study helps to analyze the problems causing the patient waiting outside the doctors' chamber and provide possible suggestions for the reduction of the same.
3. According to Fortis operating system (FOS), patient waiting after the checking of vitals outside the doctor's chamber beyond 15 minutes is recorded as 'delay'.

4. Scope of the study

The scope of the study involves the time taken for consultation of the patient after checking of the vitals in the nursing station till the patient enters the doctors' chamber for consultation.

5. Plan of action

1. To understand the process of consultation of patients in the OPD

2. To understand the daily schedule of the doctors
3. To understand the process of scheduling of the surgeries
4. To document the time taken for the entry of the patient in the doctors' chamber after the recording of the vitals in the nursing station.
5. To find scope of reducing the patient waiting time for consultation

6. Research Design

The study design applied was cross sectional descriptive design. The time period of the study was 2 months from 1st April till 31st May.

The study pattern was retrospective from 1st April till 30th April and all the OPD patients of 48 doctors were analyzed for any delays in the consultation with the doctor.

From 1st May till 31st May, the OPD patients of 14 doctors (Dr HJS Gill, Dr P Ranjan, Dr Atul Joshi, Dr Seema Wadhwa, Dr NC Raina, Dr M Ahuja, Dr Rajeev Kapoor, Dr R P Doley, Dr A S Bawa, Dr S Mishra, Dr J D Wig, Dr Jagmohan Varma, Dr Kochar and Dr Bali) were observed in the OPD.

The waiting time for consultation with the doctor was recorded and data transferred to excel sheets and calculations were made using MS-EXCEL.

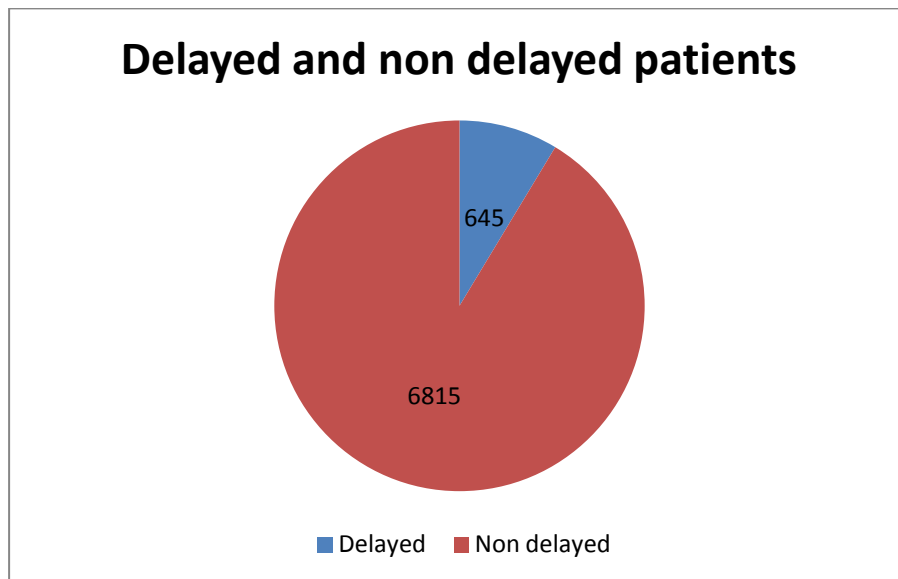
7. Retrospective study (1ST April till 30th April)

A retrospective study was carried out in the hospital on 48 doctors. The O.P.D. data was taken for the month of April and analyzed.

7.1 The total Out Patients.

Delayed patients	Non delayed patients
645	6815

8.60%	91.40%
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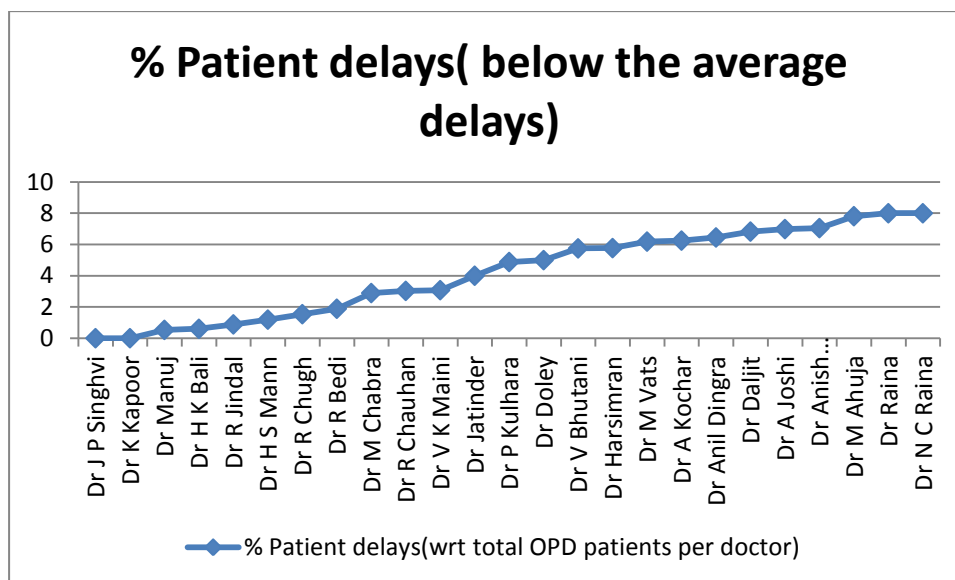
The graph above shows the delayed and non delayed patients out of the total O.P.D. patients for the month of April, 2013 for the 48 doctors under study. 645 patients i.e. about 8.6 % of the patients had to wait beyond 15 minutes outside the doctor's chamber due to reasons related to the doctor. 6815 patients i.e. 91.40 % of the patients either had the consultation with the doctor on time or if they were delayed it was solely because they arrived late outside the doctors' chamber.

7.2 The delays with respect to each doctor.

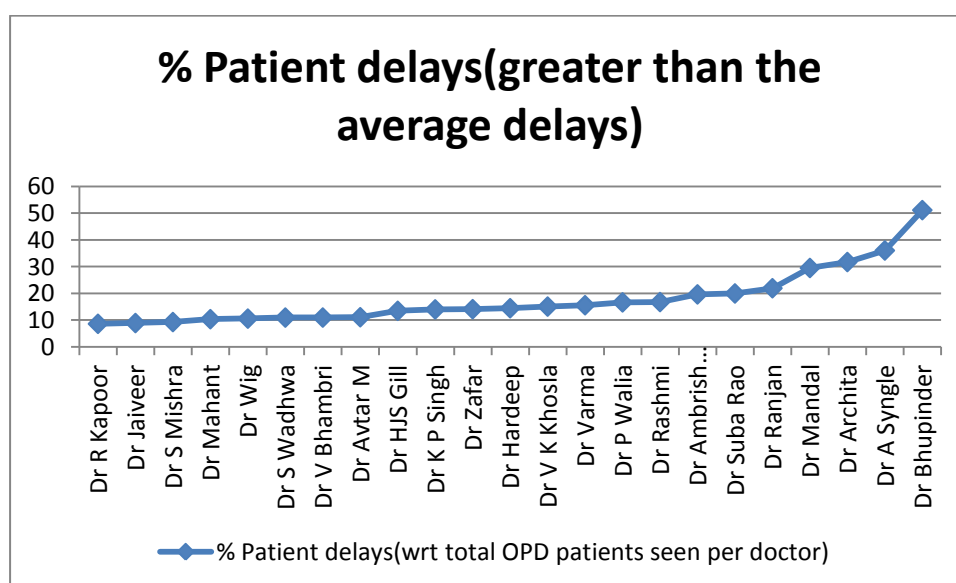
Each doctor under study had different number of total O.P.D. patients seen in the month of April with different number of patients delayed beyond 15 minutes in their consultation with the doctor. The average patient delays for the month of April were 8.6%. According to Fortis Operating System, it is unacceptable and it should be less than 5%

Doctor	% delays
Dr J P Singhvi	0.00
Dr K Kapoor	0.00
Dr Manuj	0.53
Dr H K Bali	0.60
Dr R Jindal	0.88
Dr H S Mann	1.19
Dr R Chugh	1.54
Dr R Bedi	1.89
Dr M Chabra	2.89
Dr R Chauhan	3.03
Dr V K Maini	3.08
Dr Jatinder	4.00
Dr P Kulhara	4.88
Dr Doley	5.00
Dr V Bhutani	5.75
Dr Harsimran	5.77
Dr M Vats	6.19
Dr A Kochar	6.25
Dr Anil Dingra	6.45
Dr Daljit	6.83
Dr A Joshi	6.99
Dr Anish Gupta	7.05
Dr M Ahuja	7.81
Dr Raina	8.00
Dr N C Raina	8.00
Dr R Kapoor	8.64
Dr Jaiveer	8.93
Dr S Mishra	9.30
Dr Mahant	10.38
Dr Wig	10.59
Dr S Wadhwa	10.98
Dr V Bhambri	10.99
Dr Avtar M	11.11
Dr HJS Gill	13.50
Dr K P Singh	14.04
Dr Zafar	14.12
Dr Hardeep	14.48
Dr V K Khosla	15.08
Dr Varma	15.60
Dr P Walia	16.67
Dr Rashmi	16.78
Dr Ambrish Singal	19.64
Dr Suba Rao	20.00
Dr Ranjan	21.95

Dr Mandal	29.53
Dr Archita	31.75
Dr A Syngle	36.07
Dr Bhupinder	51.16



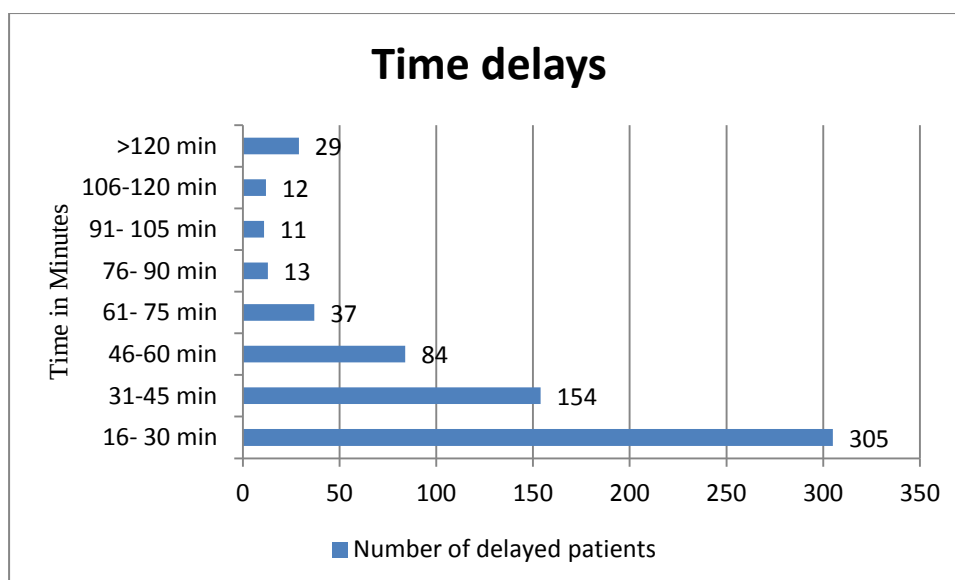
The graphs above show the percentage of patient delays with respect to 25 doctors for the month of April, 2013. The 25 doctors shown above had percent patient delays below the average of 8.6%.



The graphs above show the percentage of patient delays with respect to 23 doctors for the month of April, 2013. The 23 doctors shown above had percent patient delays greater than the average of 8.6% with Dr Bhupinder having the maximum % Patient delays i.e. about 51% patient delays.

7.3 The waiting time for consultation in minutes.

Time delay	No. Of Patients
16- 30 min	305
31-45 min	154
46-60 min	84
61- 75 min	37
76- 90 min	13
91- 105 min	11
106-120 min	12
>120 min	29



The above graph depicts the waiting time of all the delayed patients for the month of April, 2013 in minutes. 305 patients had to wait for the consultation with the doctor for 16 to 30 minutes. 29 patients even had to wait for more than 2 hours.

8. Prospective study (1st May to 31ST May, 2013)

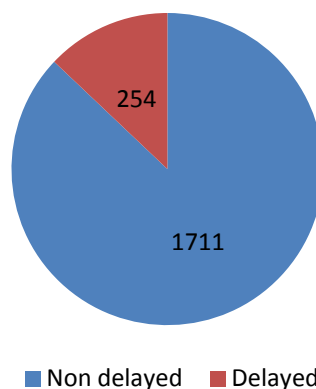
A prospective study was carried out on the first floor O.P.D of the hospital and all the patients of 14 doctors were observed.

8.1 The Total Out patients.

The study revealed that out of a total of 1965 patients seen by the 14 doctors under study, 254 patients were delayed in their consultation with the doctors after the checking of the vitals in the nursing station beyond 15 minutes.

Non delayed patients	Delayed patients
1711	254
87%	13%

Delayed and non delayed patients due to reasons related to doctor

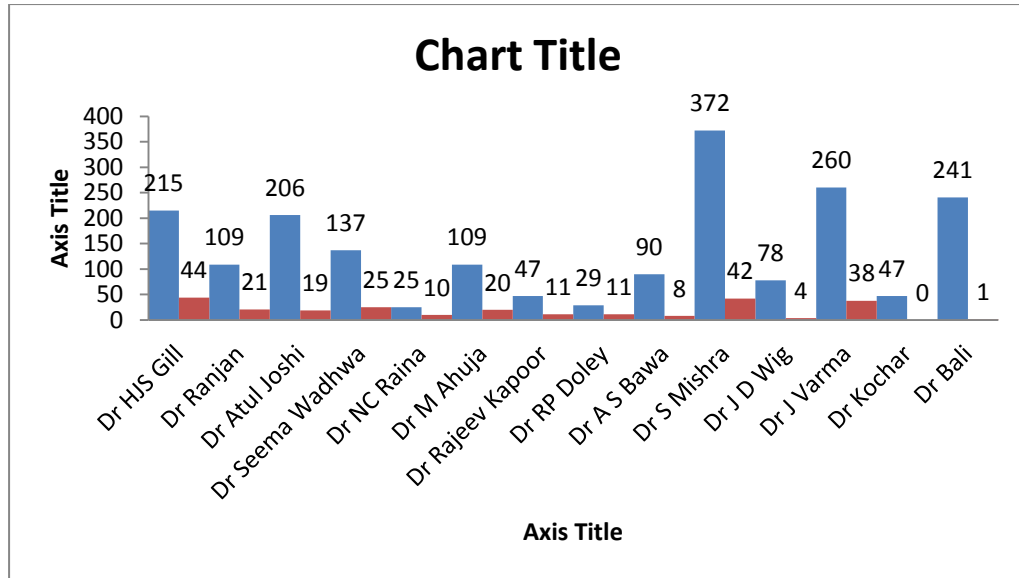


The above graph shows that for the month of May out of the total O.P.D. patients of the 14 doctors under study, 254 patients i.e. about 13% of the patients had to wait beyond 15 minutes outside the doctor's chamber due to reasons related to the doctor. 1711 patients i.e. 87% of the patients either had the consultation with the doctor on time or if they were delayed it was solely because they arrived late outside the doctors' chamber.

8.2 The delays with respect to each doctor

Each doctor under study had different number of total O.P.D. patients seen in the month of May with different number of patients delayed beyond 15 minutes in their consultation with the doctor.

Doctor	Total patients in OPD	Delayed
Dr HJS Gill	215	44
Dr Ranjan	109	21
Dr Atul Joshi	206	19
Dr Seema Wadhwa	137	25
Dr NC Raina	25	10
Dr M Ahuja	109	20
Dr Rajeev Kapoor	47	11
Dr RP Doley	29	11
Dr A S Bawa	90	8
Dr S Mishra	372	42
Dr J D Wig	78	4
Dr J Varma	260	38
Dr Kochar	47	0
Dr Bali	241	1



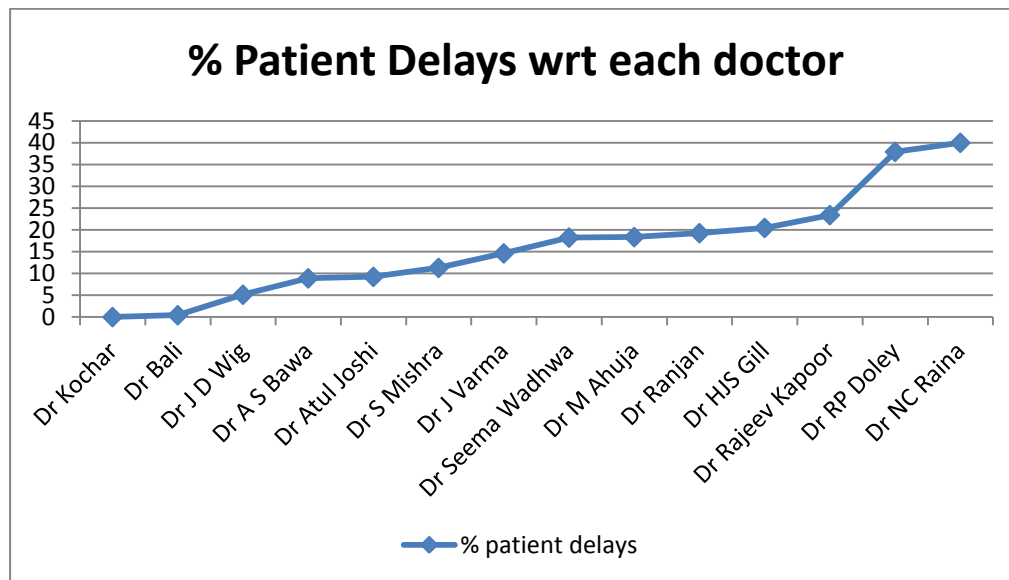
The above graph depicts the total number of O.P.D. patients seen by a doctor along with the number of delayed patients beyond 15 minutes.

8.3 Percent patient delays with respect to each doctor.

Each doctor had different number of O.P.D patients in the month of May. So to compare them, Percent patient delays i.e. percentage of delayed patients of each doctor under study with respect to the total O.P.D patients of that doctor were found out.

Doctor	% Delays
Dr Kochar	0.00
Dr Bali	0.41
Dr J D Wig	5.13
Dr A S Bawa	8.89
Dr Atul Joshi	9.22
Dr S Mishra	11.29
Dr J Varma	14.62
Dr Seema Wadhwa	18.25
Dr M Ahuja	18.35
Dr Ranjan	19.27

Dr HJS Gill	20.47
Dr Rajeev Kapoor	23.40
Dr RP Doley	37.93
Dr NC Raina	40.00



The above graph shows that the percent patient delays beyond 15 minutes were more for Dr N C Raina with 40% of the O.P.D. patients delayed. Dr R P Doley also had a significant number of patients delayed with about 37% of the O.P.D. patients' delayed.

It is worthwhile to note that Dr Kochar had nil patient delays beyond 15 minutes and Dr Bali had just 0.4% patient delayed out of the total O.P.D. patients seen in the month of May.

8.3 The reasons for delays in consultation with the doctors.

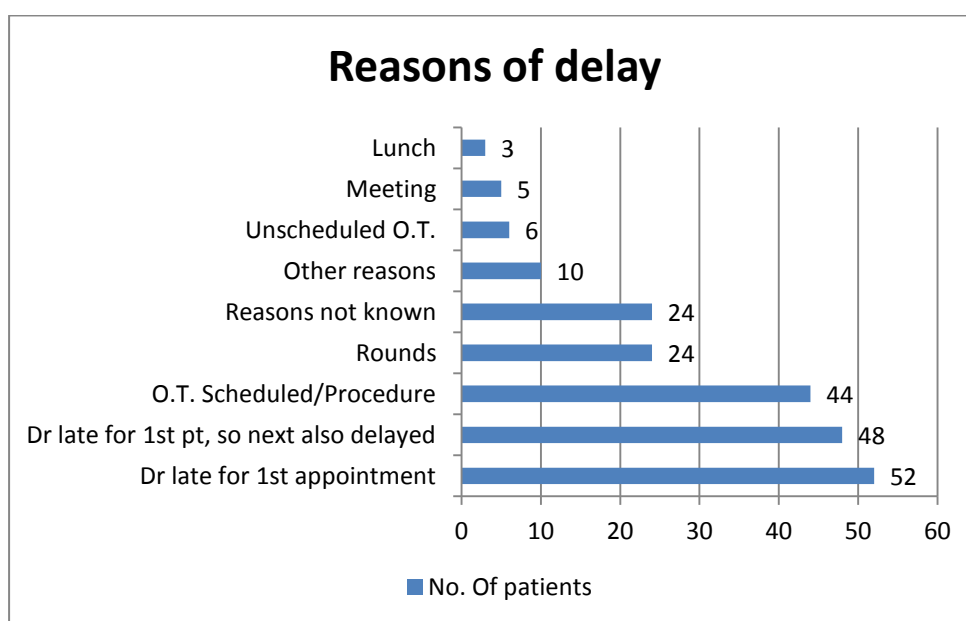
The reasons of delay in consultation with the doctor are many and varied with every doctor.

Reasons:	No. of patients
Dr late for 1st appointment	52
Dr late for 1st pt, so next also delayed	48
O.T. Scheduled/Procedure	44
Rounds	24
Reasons not known	24
Other reasons	10
Unscheduled O.T.	6

Meeting	5
Lunch	3

Other reasons include the doctor having a visitor from Fortis, the doctor examining a VIP patient and doctor examining the patients according to the time the patient arrived outside the doctor's chamber and not according to the appointments.

Delays of 38 patients of Dr Jagmohan Varma, a cardiologist, are mostly due to the doctor busy in some medical procedure.



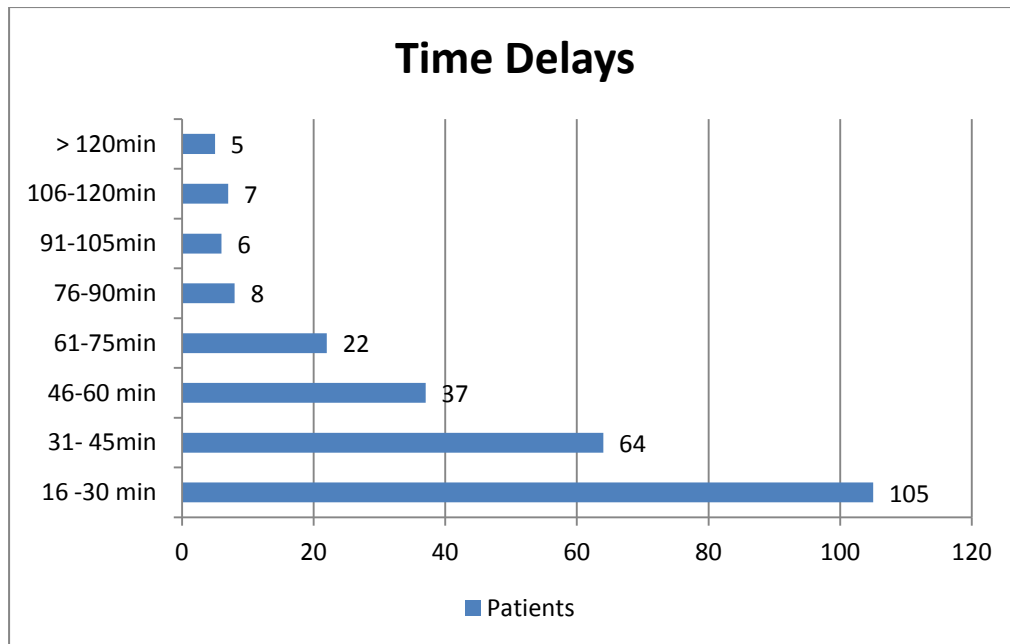
The reasons observed during the study for the delay in consultation of the patient with the doctor were many. But the most common reasons were the doctor being late for 1st appointment, due to the doctor arriving late for the 1st appointment other appointments also got delayed and prescheduled surgeries to be done by the doctors.

It was found out during the study that for most of the doctors the O.P.D. slots are not blocked during the O.T. timings, for lunch and for regular rounds.

8.4 The waiting time for consultation in minutes.

Patient waiting outside the doctors' chamber for consultation beyond 15 minutes is regarded as delay (According to Fortis Operating System). The waiting time for consultation is very frustrating for the patients and leads to patient dissatisfaction. During the study it was found that many patients had to wait for consultation with the doctor even if they had a pre booked appointment. Many patients had the question that if they have to wait so much for the doctors' consultation, then what is the use of taking a prior appointment and some felt that if they have to wait then why not visit a government hospital and get almost free of cost consultation.

Time	Patients	% of total delays
16 -30 min	105	41.34
31- 45min	64	25.20
46-60 min	37	14.57
61-75min	22	8.66
76-90min	8	3.15
91-105min	6	2.36
106-120min	7	2.76
> 120min	5	1.97



It was observed during the study that 105 patients had to wait for the doctor's consultation between 16 to 30 minutes i.e. about 41% of the delayed patients. 64 out of the delayed patients had to wait between 31 to 45 minutes i.e. about 25% of the delayed patients. 2% of the delayed patients even had to wait more than 120 minutes.

9. Recommendations

1. It is highly recommended that the ensure punctuality on part of doctors in starting the OPD on time is strictly implemented as 24% of the delays in the study conducted was found due to this reason. Moreover, 22% were delays in later appointments due to the doctor late for the first appointment. This may be due to the doctor doing some emergency surgery, doing rounds in the In Patient department or arriving late in the morning for the first appointment.

- The doctors should be encouraged to come to the OPD on time. If a particular doctor's OPD duty starts from 9 a.m., he should be ready to see the first patient at sharp 9 a.m.
 - If the doctor goes for IPD rounds before the start of OPD slots, then the doctor should start the rounds well before time.
 - With agreement with the doctor, the hospital could leave the first appointment slot vacant which could be filled if the doctor arrives on time.
2. The doctors should have separate days fixed for surgeries and for outpatient consults or can have separate fixed time schedules in a day (example: Morning hours fixed for OPD and later half for surgeries). During the study conducted 20% of the patient delays were due to pre scheduled surgeries.
 3. The lunch timings and round timings of doctors should be fixed as 11% of the delays were found due to the doctor unavailable in the OPD due to the doctor doing regular rounds in the IPD. Although a minor percentage i.e. about 1% of the patients were also delayed as the doctor was having lunch. The doctors should be encouraged to fix the daily round and lunch timings and block the OPD slots for that time.
 4. In case of an emergency surgery, the patients should be informed about the whereabouts of the doctor and the expected waiting time. This will make the patients feel that they are cared for and help lowering their frustration.
 5. In case of pre appointment patients, if the doctor informs the hospital of any sort of delay, the hospital should inform the patient by a prior call or sms. This will save the patient from undue harassment.
 6. If there is any delay in consultation, the doctor on arrival in OPD should politely explain to the patients the reasons for the absence.

7. The waiting area should be upgraded so that a good environment in the waiting area helps reducing patients' mental stress. There should be kept newspapers, health related magazines etc. The walls should have health related educating posters.

10. Conclusion:

An Out Patient Department is regarded as the shop window of the hospital. It should provide the best services to its customers i.e. the patients. A satisfied outpatient brings more patients to the hospital. An efficient management of outpatient department creates a favorable attitude towards the hospital. Every possible effort should be made to increase patient satisfaction by reducing the waiting time of the patient in the system as waiting time is the major cause of patient dissatisfaction. The study conducted highlights the reasons for the patient waiting time and also offers some suggestions to combat the same.

11. Reference:

1. Module on ' Essentials of Hospital Services' by Dr Ashok Kaushik, Dean Academic and Student Affairs, Institute of Health Management and Research, Jaipur.
2. <http://theglobaljournals.com/ijsr/file.php?val=NjU4>

Reducing Delays in Admission and Discharge Process in the In Patient Department

- A Study in Fortis Hospital, Mohali

*Dr Gitika Chhabra
Dr Kirandeep Kaur Tiwana*

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Inpatient Department (IPD)

Introduction

IPD is one of the most important departments of the hospital. It forms about 30-35% of the hospital complex.

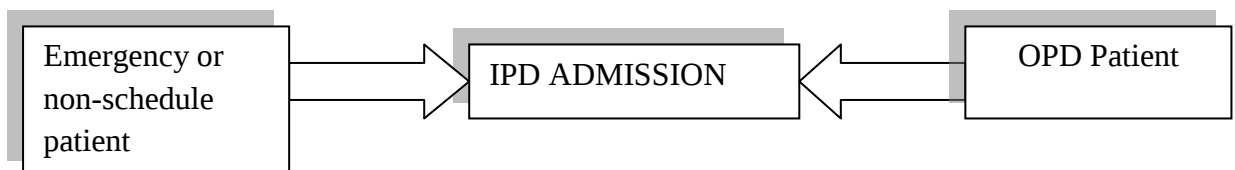
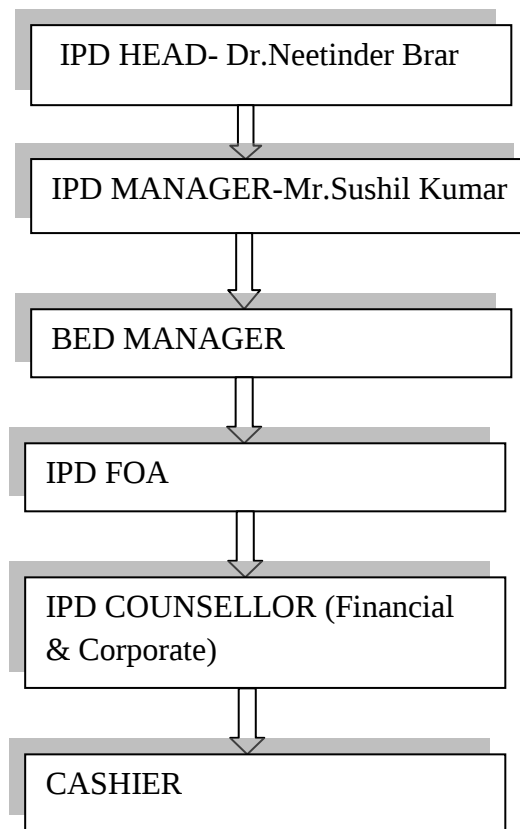
Inpatient- means that the procedure requires the patient to be admitted to the hospital so that he can be closely monitored during the procedure and afterwards for recovery.

FUNCTIONS OF IPD

- Admit, discharge and transfer of the patient.
- Co-ordinate the registration and admission of the patient.
- Arrange for the interim billing process
- To provide the highest possible quality of medical and nursing care to admitted patients.
- To make provision for essential equipments, drugs and all other items required for patient care in an organized manner.
- To provide comfortable and desirable environment to fulfill all the basic needs in the hospital like food, sleep and rest, entertainment and sanitation etc.
- To regulate and facilitate the visits of attendants and visitors.
- To provide facilities and environment which promotes job satisfaction of the medical, nursing and other staff entrusted the care of the patients.

The main objective of the I.P.D. of a hospital should include reduction of patients' time in the system, improvement on customer services and better use of available resources. Hence forth the discharge time should be well timed and should be properly conveyed to patient in advance.

STAFFING



FUNCTIONAL AREAS UNDER IPD

- IPD Front Office/IPD Reception
- IPD Counselling incorporating the Financial and Corporate counsellors
- IPD Billing Office
- Bed manager Office
- Patient welfare office

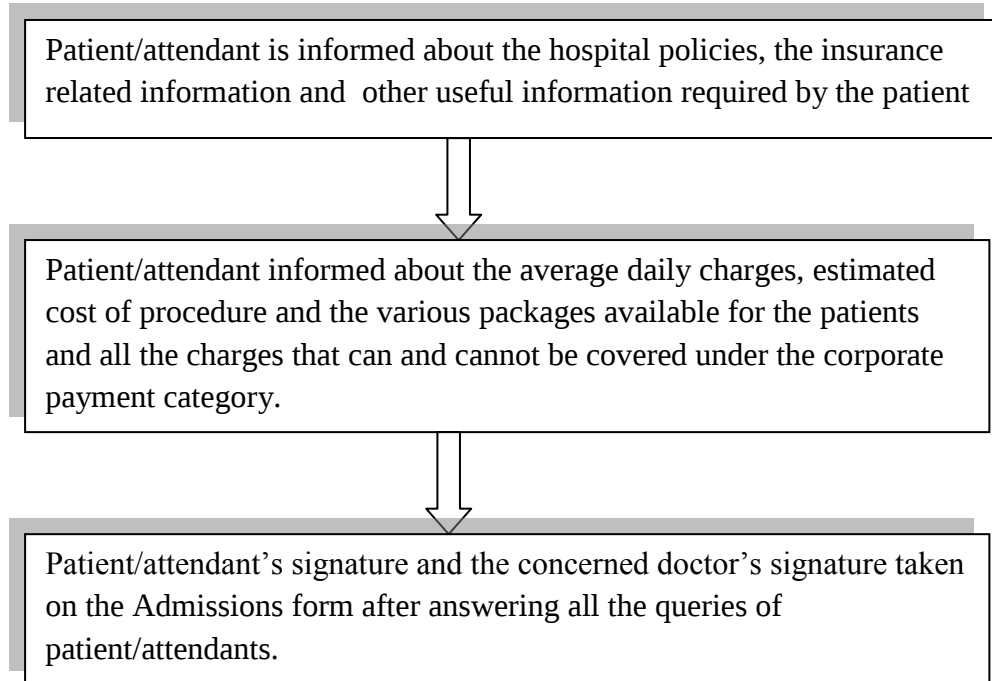
IPD Front OFFICE

- Registering patient details and issuing registration cards
- Guiding the patient to the admission or billing counters.
- Providing the patient with all the assistance they may require (via counseling).
- The staff here should have proper skills and knowledge how to communicate and interact with the patients.
- Issue of visitor passes to relatives and briefing the visiting rules.

Counselling

- Counseling can be **financial** or **corporate** counseling.
- Counselor provides a brief on room categories their tariff and visiting hours
- Counselors also provide estimated cost of treatment after consulting treating doctor based on anticipated length of stay, room categories etc.
- The final bill may vary depending on the course of illness and treatment.
- Patient/attendant is informed about the Tariff policy, discount and the refund system.
- For package patients, 100% advance.

CORPORATE COUNSELLING



IPD Billing Office

- Sponsor Verification
- Approval from Sponsor.
- Ensure if the insurance forms are complete and accurate.
- Informing the attendants about future deposits
- Interim billing process.
- On receiving discharge information, **clearance** is taken from all concerned departments. (E.g. **Blood bank** and **Pharmacy**).
- Prepare the final bill with item wise, date wise details and hand over it to Front Office which finally hands over it to patient for timely payment before discharge.
- Cash payment is taken and no cheques are taken.
- For the international credit card transactions a copy of passport with Indian visa is mandatory.
- Refunding (at the time of discharge)
 - If less than Rs.10000 – cash refunded.
 - If more than Rs.10000 –refunded via cheque.

Discharge Protocol

- For all planned discharges the room needs to be vacated before 11 am.
- In case room is not vacated till 11, half day rent will be applicable.
- A day prior, the bill status of the patient should be checked with the I.P.D counselor.
- If ambulance is required the requests for same should be made at the I.P.D prior.
- In all insurance cases the patients can be discharged also after the final approval is received from the insurance partner.

Patient Welfare Department (PWD)

- PWD works 24*7 to guide and assist the patients and their attendants in all their queries
- Monitoring of patient satisfaction feedback at all levels of services

Quality in the IPD

- Assess the effectiveness and efficiency of inpatient services
- Maintain the proper coordination of the respective department Under the IPD.
- Keep interacting with the patients and take their feedback for continuous improvement.
- Maintain a proper data
- The updated “Bed Index” showing the current occupancy status of all patient rooms.
- Preparing admission and discharge reports and mid-night census.
- Periodic reviews of data for continuous improvement of functioning of the department.

Research Question

1. How the delay in the admission and discharge process affects the quality of the IPD?
2. What can be the ways of reducing the delays in admission and discharge process in the IPD?
3. How such delay affects the quality of services provided by the hospital?

Objectives

The objectives of the study were:

- To calculate the average admission and discharge time.
- To know the procedure involved in patient admission and discharge and time taken at each step.
- To find scope of reducing the admission and discharge time, if any.

Plan of action

1. To study the admission and financial discharge report for the month of April and May 2013
2. To understand the admission and discharge process of I.P.D.
3. To understand the reasons for delays in the admission and discharge process
4. To find scope of reducing such delays

Research Design

The time period for the study was from 1st April 2013 to 30th April 2013. The research design used was “Cross-sectional descriptive study”.

The study and analysis is being done of the following data:

- The discharge process data prepared by the “IPD Billing Office” after getting clearance from the departments like Blood Bank and Pharmacy till the final hand over of the bill to the “IPD Front Office”. The total time should not exceed 35 minutes in this whole process.
- The data maintained by the “IPD Front Office” from the bill handover time to the final bill clearance by the patient. The total time shouldn’t exceed 30 minutes for this process.
- The data maintained at the “IPD Front Office” regarding admission process from the admission time to the counseling time to the admission time to the final escorting of the patient to the particular ward or room. The total time in this process shouldn’t exceed 30 minutes.

The importance of studying the admission process is underlined by the following facts:

- Patient satisfaction
- Quality of care imparted to the patients
- Maintain standards of the FOS
- Proper counseling of the patients regarding admissions and mode of payment
- Proper utilization of hospital resources
- Adding value to the hospital

The importance of having a well timed discharge is underlined by the fact that it affects hospital reputation and revenue generation in multiple ways like:

- Patient satisfaction
- Utilization of hospital resources
- Revenue generation
- Timely access to inpatient bed
- Assured continuity of care

Data Compilation and Analysis

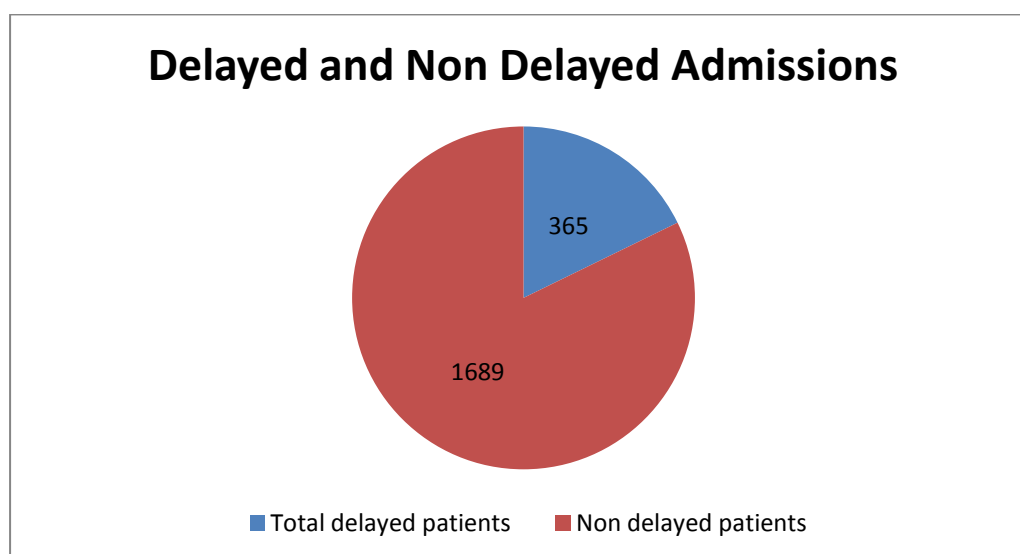
1. Delays in admission process in the month of “April 2013” at the IPD Front Office

1.1 The total admissions:

The study revealed that out of the total of 2054 admissions in the month of April, 365 admissions were delayed in the process by more than 30 minutes.

Total delayed patients	Non delayed patients
365	1689

% of patients delayed	% of non delayed patients
17.77	82.23

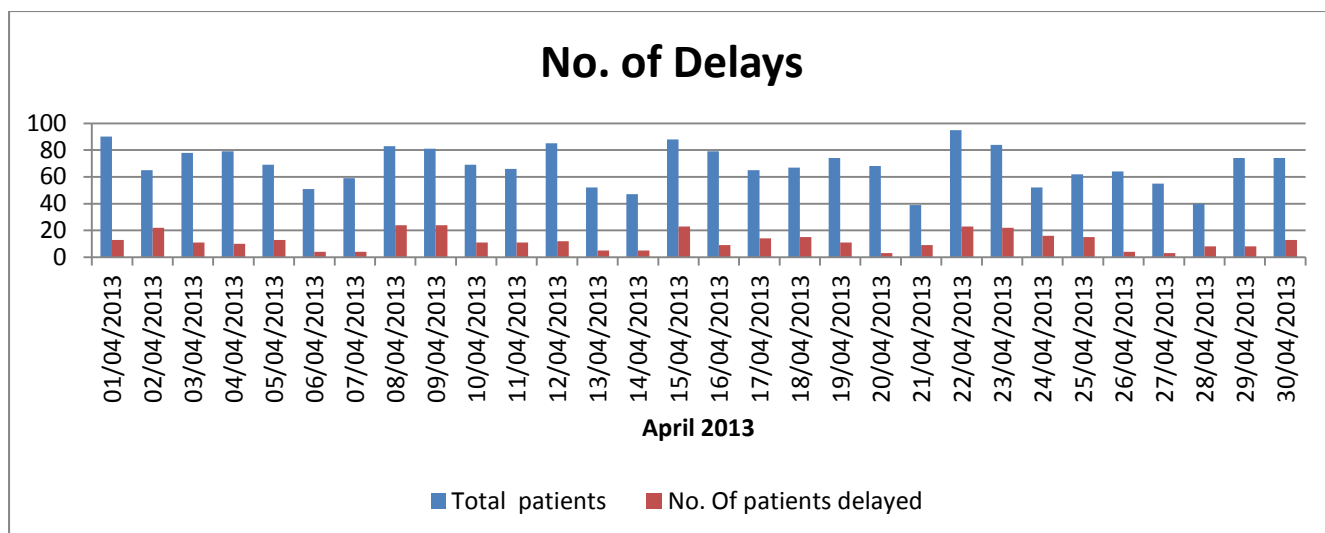


The pie chart above depicts that the admission of 365 patients i.e. about 18% of the total patients were delayed in getting admitted beyond 30 minutes. 1689 i.e. about 82% of the admissions were well on time and not delayed.

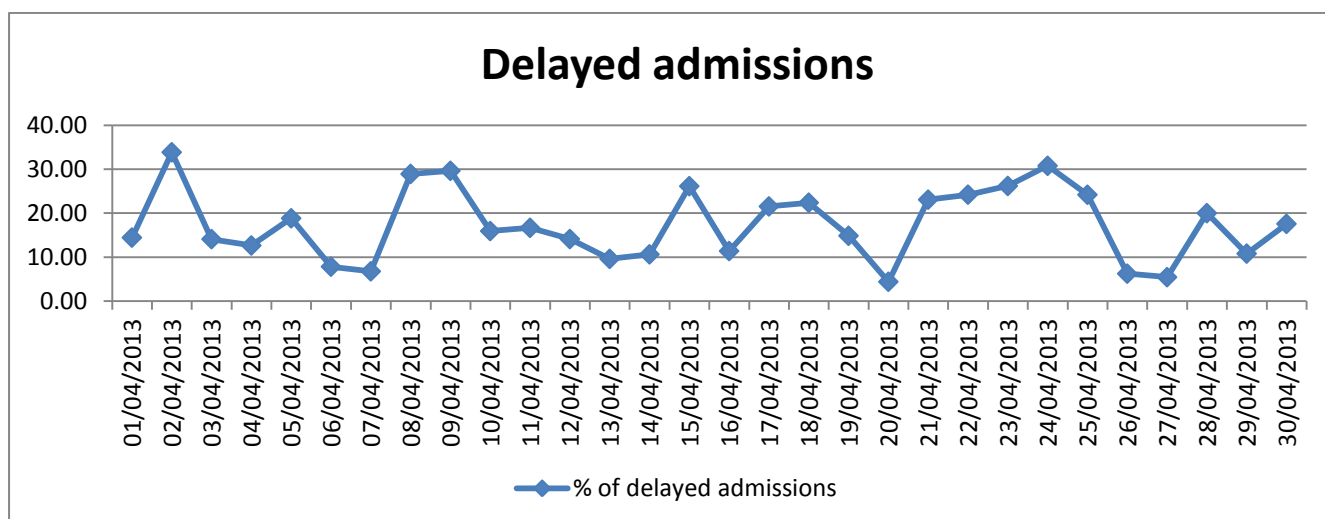
1.2The delays with respect to date.

During the analysis of data it was found that the number of delays varied with each day and total admissions

Date	Total patients	No. Of patients delayed	% of delayed admissions
01-04-2013	90	13	14.44
02-04-2013	65	22	33.85
03-04-2013	78	11	14.10
04-04-2013	79	10	12.66
05-04-2013	69	13	18.84
06-04-2013	51	4	7.84
07-04-2013	59	4	6.78
08-04-2013	83	24	28.92
09-04-2013	81	24	29.63
10-04-2013	69	11	15.94
11-04-2013	66	11	16.67
12-04-2013	85	12	14.12
13-04-2013	52	5	9.62
14-04-2013	47	5	10.64
15-04-2013	88	23	26.14
16-04-2013	79	9	11.39
17-04-2013	65	14	21.54
18-04-2013	67	15	22.39
19-04-2013	74	11	14.86
20-04-2013	68	3	4.41
21-04-2013	39	9	23.08
22-04-2013	95	23	24.21
23-04-2013	84	22	26.19
24-04-2013	52	16	30.77
25-04-2013	62	15	24.19
26-04-2013	64	4	6.25
27-04-2013	55	3	5.45
28-04-2013	40	8	20.00
29-04-2013	74	8	10.81
30-04-2013	74	13	17.57



The graph above depicts the total number of patients admitted and the delayed admissions for each day of the month of April.

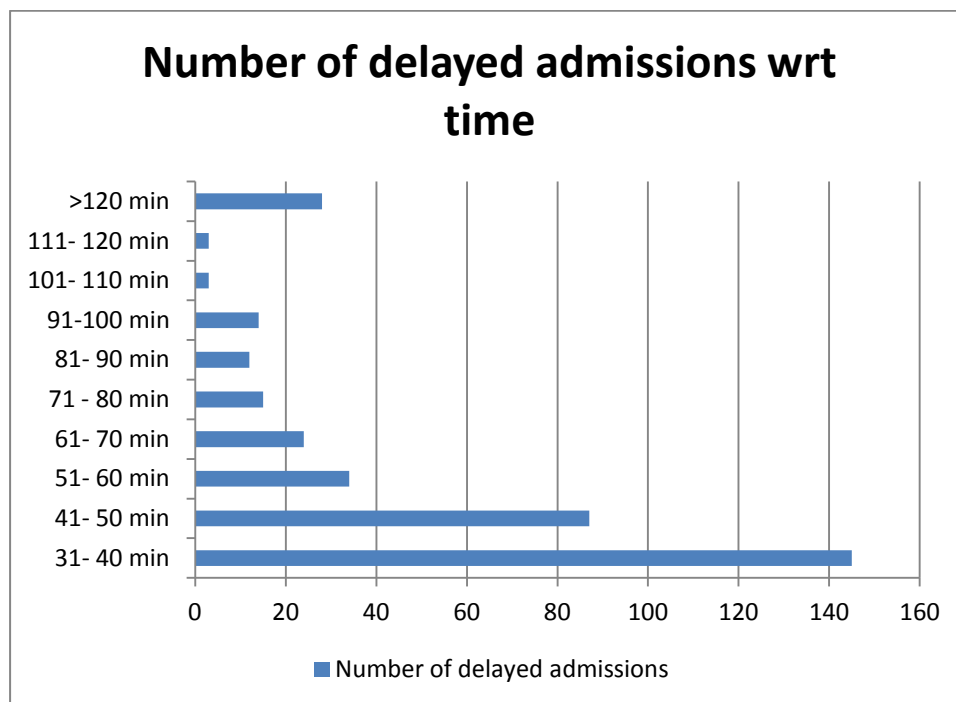


The graph above depicts the percentage of delayed admissions of the total admissions with respect to each date. The percent delays were highest on 2nd of April with about 33% delays and were lowest on 20th April with about 4% delays.

1.3The delay in minutes:

For the admission process in IPD, 30 minutes time is taken as ideal time for the front office.

Time taken	No. Of admissions
31- 40 min	145
41- 50 min	87
51- 60 min	34
61- 70 min	24
71 - 80 min	15
81- 90 min	12
91-100 min	14
101- 110 min	3
111- 120 min	3
>120 min	28

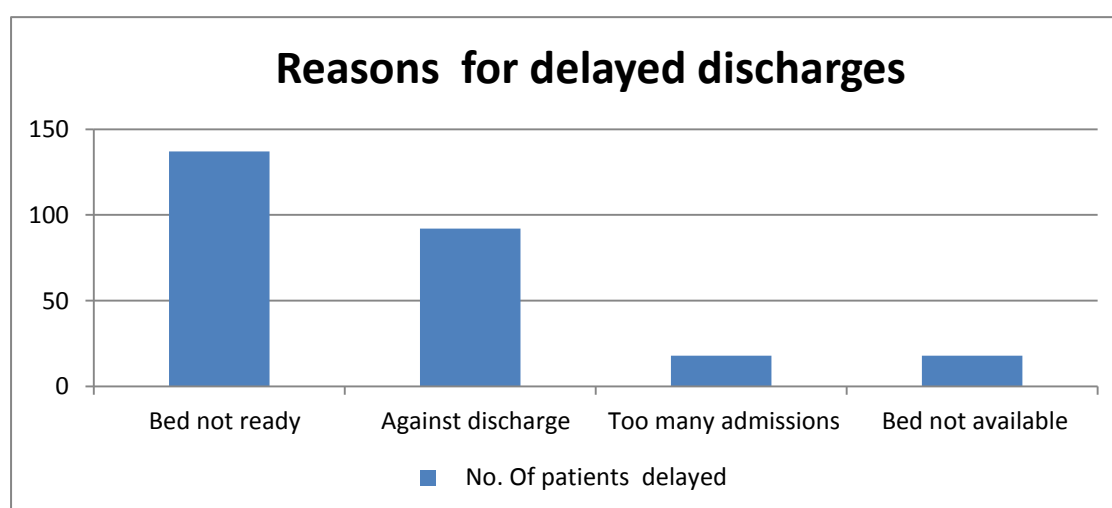


The graph above depicts the delays with respect to time. It can be seen that 145 patients i.e. about 40% of the patients had to wait for about 31 – 40 minutes for getting admitted. About 23% i.e. 87 patients had to wait for about 41 – 50

minutes for getting admitted. 28 patients i.e. about 7% of the patients had to wait for more than 2 hrs for getting admitted.

1.4 Reasons for the delays:

Reasons for delay in admission process	No. Of patients delayed
Bed not ready	137
Against discharge	92
Too many admissions	18
Bed not available	18

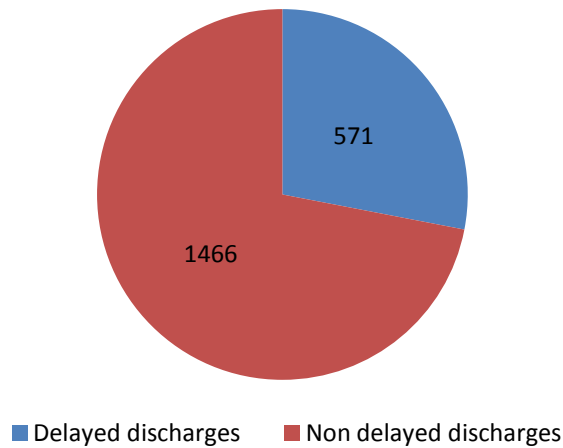


2. Delays in discharge process in the month of “April 2013” at the “IPD Billing Office”

2.1 The total discharges

Delayed discharges	Non delayed discharges
571	1466
28%	71%

Delayed and Non Delayed discharges

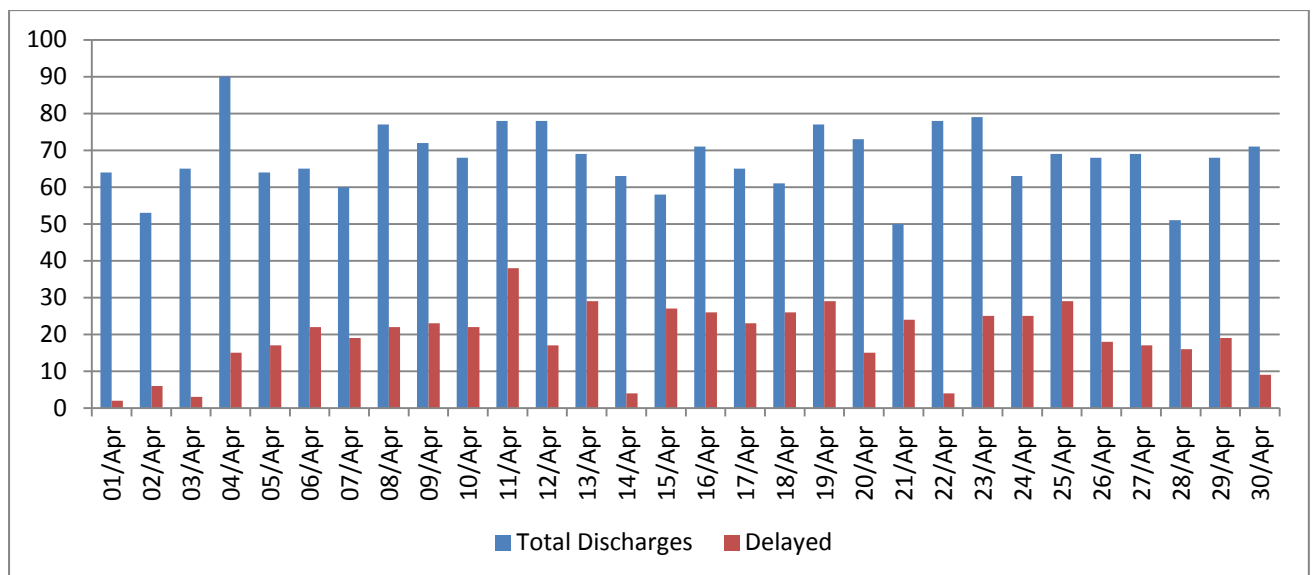


The above graph depicts that out of total 2037 patients, 571 patients were not discharged on time and 1466 patients were discharged on time at the “IPD Billing Office” that is about discharge of about 28% of the patients was delayed at the “IPD Billing Office”

2.2 The delays with respect to date

Date	Total Discharges	Delayed
01-Apr	64	2
02-Apr	53	6
03-Apr	65	3
04-Apr	90	15
05-Apr	64	17
06-Apr	65	22
07-Apr	60	19
08-Apr	77	22
09-Apr	72	23
10-Apr	68	22
11-Apr	78	38
12-Apr	78	17
13-Apr	69	29
14-Apr	63	4
15-Apr	58	27
16-Apr	71	26
17-Apr	65	23
18-Apr	61	26
19-Apr	77	29

20-Apr	73	15
21-Apr	50	24
22-Apr	78	4
23-Apr	79	25
24-Apr	63	25
25-Apr	69	29
26-Apr	68	18
27-Apr	69	17
28-Apr	51	16
29-Apr	68	19
30-Apr	71	9



The above graph depicts the delays in discharge process at the “IPD Billing Office” with respect to the total number of discharges in the month of April 2013.

2.3 Reasons for the delay

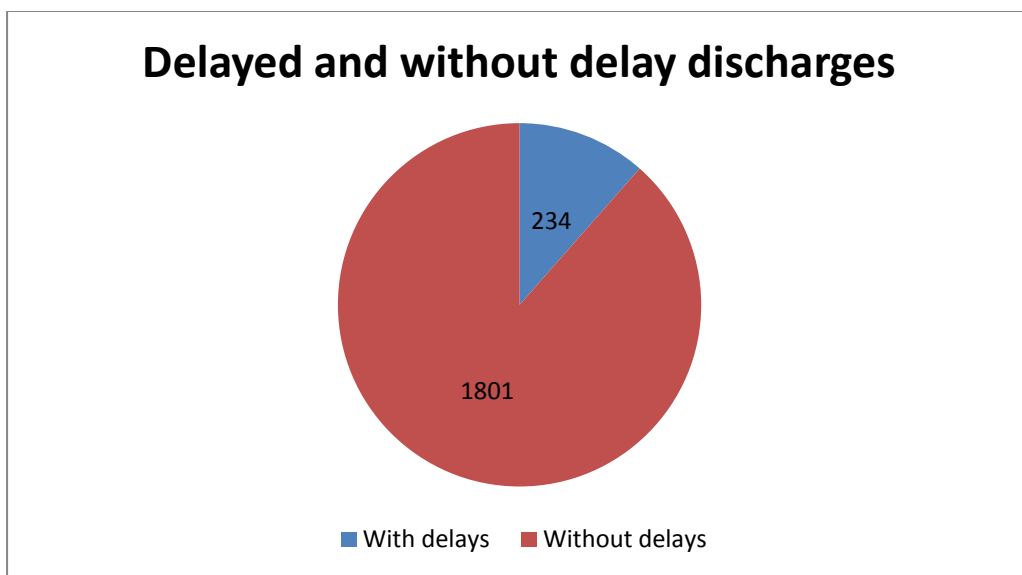
The main reason for the delays in the discharge process at the “IPD Billing Office” is “Too many discharges”.

3. Delays in discharge process in the month of “April 2013” at the “IPD Front Office:

3.1 The total discharges:

The study revealed that out of 2035 discharges, 234 discharges were delayed at the IPD front office.

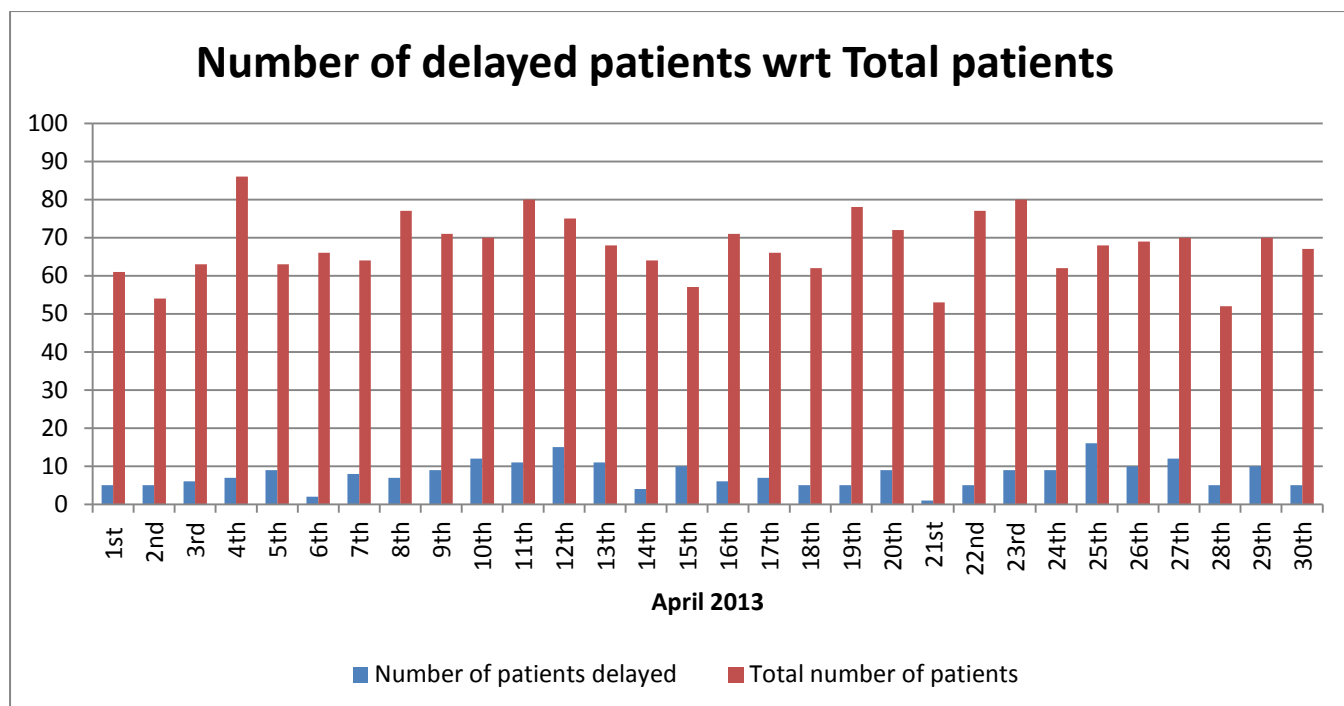
Delayed discharges	Non Delayed discharges
234	1801
11.50%	88.50%



The pie chart above shows that 234 discharges i.e. 11.5% of the total discharges were delayed in the discharge process at the IPD front office. 1801 discharges i.e. about 88.5% had the discharge process completed on time at the IPD front office.

3.2 The delays with respect to date

Date	Total Discharges	Delayed Discharges
1st April	61	5
2nd April	54	5
3rd April	63	6
4th April	86	7
5th April	63	9
6th April	66	2
7th April	64	8
8th April	77	7
9th April	71	9
10th April	70	12
11th April	80	11
12th April	75	15
13th April	68	11
14th April	64	4
15th April	57	10
16th April	71	6
17th April	66	7
18th April	62	5
19th April	78	5
20th April	72	9
21st April	53	1
22nd April	77	5
23rd April	80	9
24th April	62	9
25th April	68	16
26th April	69	10
27th April	70	12
28th April	52	5
29th April	70	10
30th April	67	5

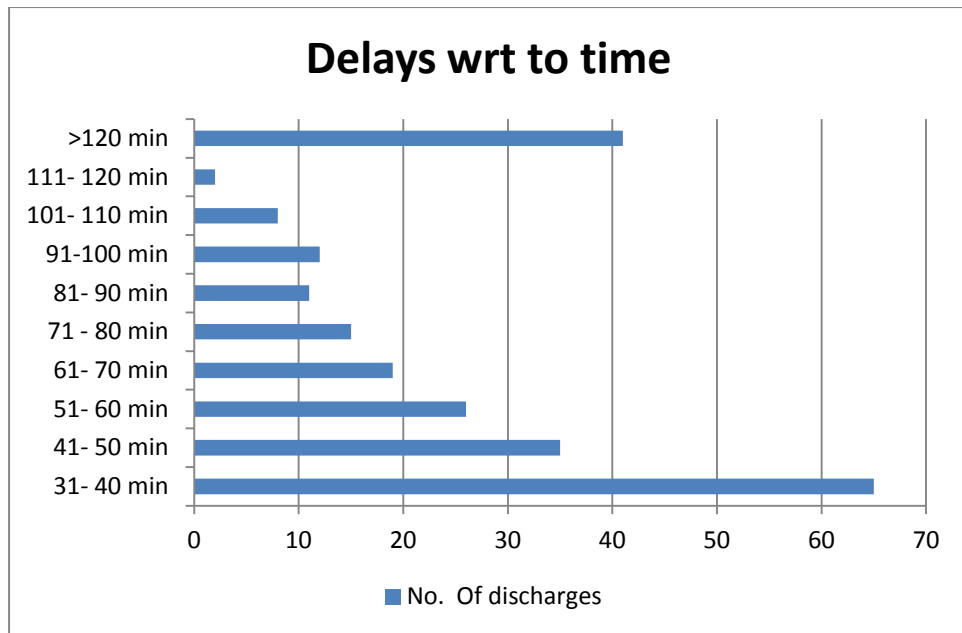


The above graph depicts the number of patients delayed with respect to total number of patients in the month of “April 2013”.

3.3. The delay in minutes

For discharge process, 30 minutes is taken as an ideal time at the front office of IPD.

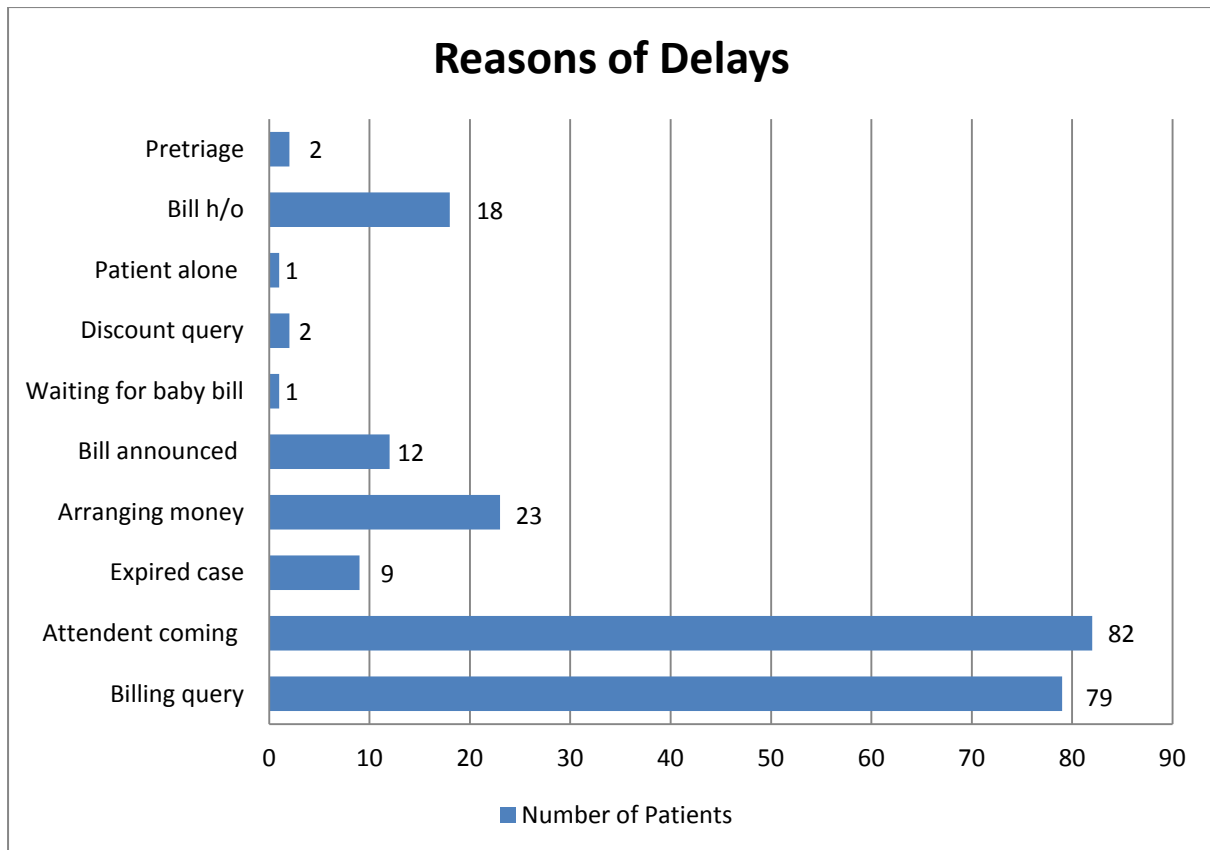
Time taken	No. Of discharges
31- 40 min	65
41- 50 min	35
51- 60 min	26
61- 70 min	19
71 - 80 min	15
81- 90 min	11
91-100 min	12
101- 110 min	8
111- 120 min	2
>120 min	41



The above graph depicts the number of patients whose discharge process takes more than 30 minutes during ‘financial discharge’ at the IPD front office. It can be seen that 65 discharges i.e. about 27% of the discharges had to wait for 31-40 minutes for the discharge process at the front office. 44 discharges i.e. about 17% of the patients for discharge had to wait for greater than 2hours.

3.3 Reasons for the delays

Reasons	Discharges
Billing query	79
Attendant arriving	82
Expired case	9
Arranging money	23
Bill announced	12
Waiting for baby bill	1
Discount query	2
Patient alone	1
Bill h/o	18
Pretriage	2



The above graph depicts the maximum number of patients delayed during ‘financial discharge’ process at the IPD front office is due to “billing queries” from hospital side.

Recommendations:

1. There is a need to minimize the delays due to the bed not ready for the next admission on time. The way the beds in the IPD are managed reflects the effective management of the hospital and it is very important as IPD is the main source of revenue for the hospital.
2. There should be effective analysis of demand and supply capacity so that patients do not have to wait for long for bed availability.
3. Proper counselling should be provided to the patients about the importance of beds i.e. communicating to the patient the need for timely discharge.
4. Increasing Automation in the system to deal with the delays due to MSOT wrong click, corporate approval was pending, ECHS OK pending.
5. There should be an online or electronic patient record system. This helps in ensuring completeness of data and helps in solving the problems of illegible data. This will increase the reliability of the data.
6. The attendants of the patients should be kept informed about the approximate bill charges and details of the bill if possible.