Summer Training at
Max Hospital,
Gurgaon
(April - June, 2013)

WAITING TIME ANALYSIS FOR PATIENTS IN OPD

By
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Under the guidance of
Dr. Ashok Kaushik

Post Graduate Diploma in Hospital and Health Management
2012-2014

Institute of Health Management Research,
Jaipur
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CERTIFICATE

This is to certify that Dr.Kanupriya Tiwari, student of Post Graduate Diploma in Hospital and Health Management (PGDHM) from Institute of Health Management and Research, Jaipur Batch 17th has undergone summer training in Max Hospital, Gurgaon and has done project on "Waiting Time Analysis for Patients in OPD"

The candidate has successfully carried out the mentioned studies assigned to her during summer training from April 8th, 2013 to June 8th , 2013 and her approach to study has been sincere, scientific and analytical.

I wish her success in all her future endeavors.

Dr. Ashok Kaushik

Dean, Academics and Student affair and Mentor
IHMR, Jaipur

Dr. Ashok Kaushik

Dean, Academics and Student affair
IHMR, Jaipur

MAX HEALTHCARE
Caring for you... for life

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To Whom It May Concern

This is to certify that **Ms. Kanupriya Tiwari ,** has successfully completed her Training with Max Hospital Gurgaon from **April 8th 2013 to June 7th , 2013.**

She gained experience in the Department of Facilities Management. Her main area of focus was "Waiting Time Analysis for Patients in OPD"

She exhibited good communication skills, she had good interpersonal relationships with her seniors and colleagues.

During the period of her stay with us, we found her to be hardworking and sincere.

We wish her all the best for the future.

For ALPS Hospital

MAX HOSPITAL GURGAON

Kritika Choudhary
Executive – Human Resources

ACKNOWLEDGEMENT

I take immense pleasure in completing this project and submitting the summer report. The 8 weeks with MAX Hospital, Gurgaon, has been full of learning and sense of contribution towards the organization. I would like to thanks MAX to giving me an opportunity of learning and contributing this project.

I also wish to express my sincere thanks to Deputy Medical Superintendent Dr. Ubaid Hamid Rangrez for granting me the privilege to be a part of their hospital and learn from my experience there.

I thank my mentor Mrs. Namita Gupta (Manager-Front office) for being a sincere advisor and support in my project, being a source of encouragement. My heartfelt gratitude to all members and staff of the Medical services Department for their understanding and assistance in completing my project.

I am highly grateful to Dr. S.D. Gupta (Director, IIHMR Jaipur), Dr. (Brigd) S.K. Puri (Dean Student and academic affairs and HOD of Hospital Stream), Mr. Hem Bhargava (Manager, Student Affairs) and Mr. Dalbir Singh (In charge Placement).

I extend my heartfelt gratitude to Dr. Ashok Kaushik for helping me to complete my project report and for being a constant help throughout the course of writing report.

Lastly, I wish to thanks each and every person who has been a helping hand in my endeavor, in one way or the other and also to my family for always being a much needed inspiration for me.

Dr. Kanupriya Tiwari

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ABBREVIATIONS:

- CSSD- Central Sterile Supply Department
- CT- Computerized Topography
- CTVS- Cardio Thoracic and Vascular Surgery
- ECG- Electrocardiogram
- ENT- Ear Nose Throat
- F&B- Food & Beverages
- GI- Gastrointestinal
- HR- Human Resource
- ICD- International Classification of Diseases
- ICU- Intensive Care Unit
- IPD- In-patient Department
- IT- Information Technology
- MRI- Magnetic Resonance Imaging
- OBG- Obstetrics and Gynecology
- OPD- Out-patient Department
- OT- Operation Theatre
- TPA- Third Party Administrator
- UHID- Unique Hospital identification
- PHC- Preventive Health centre
- HOD- Head of the Department
- MS- Medical Superintendent
- NS- Nursing Superintendent
- PCS- Patient Care Services
- PWD- Patient Welfare Department
- MRD- Medical Records Department
- BME- Biomedical Engineering
- IVF- In Vitro Fertilization
- PICU- Pediatric Intensive care Unit
- NICU- Neonatal Intensive Care Unit
- MICU- Medical Intensive Care Unit

INTRODUCTION:

Summer Training is an integral part of the Post Graduation Diploma in Hospital Management (PGDHM). We have completed our first academic year and as a part of the curriculum, the students are supposed to undergo a two months training in a hospital. The main purpose is to get an orientation towards the layout, operations and workflow of the hospital.

OBJECTIVES:

The main objectives are to:

1. Get an overview and develop understanding of the hospital's functioning.
2. Gather knowledge about the process flows of major clinical and non clinical departments in a hospital.
3. Help the management study and address some issues/problems associated with some specific operational area/department.

INTRODUCTION TO THE HOSPITAL

INTRODUCTION OF MAX GROUP:

HISTORY:

Max India Limited was founded in 1988. The first Max healthcare centre was opened as Max Med centre in Panchsheel Park, New Delhi with OPD facilities and day care surgeries in 2000.

Analjit Singh is the Founder & Chairman of Max India Limited, Chairman of Max New York Life Insurance Company Limited; Max Healthcare Institute Limited and Max Bupa Health Insurance Company Limited. He has been awarded the 'Padma Bhushan' Award.

Max India Limited is a multi-business corporate, driven by the spirit of enterprise and focused on people and service-oriented businesses. The Company's vision is to be one of India's most admired corporate for Service Excellence.
We 'Protect life' through our Life Insurance subsidiary. Max Life Insurance, a Joint Venture between Max India and Mitsui Sumitomo, Japan.

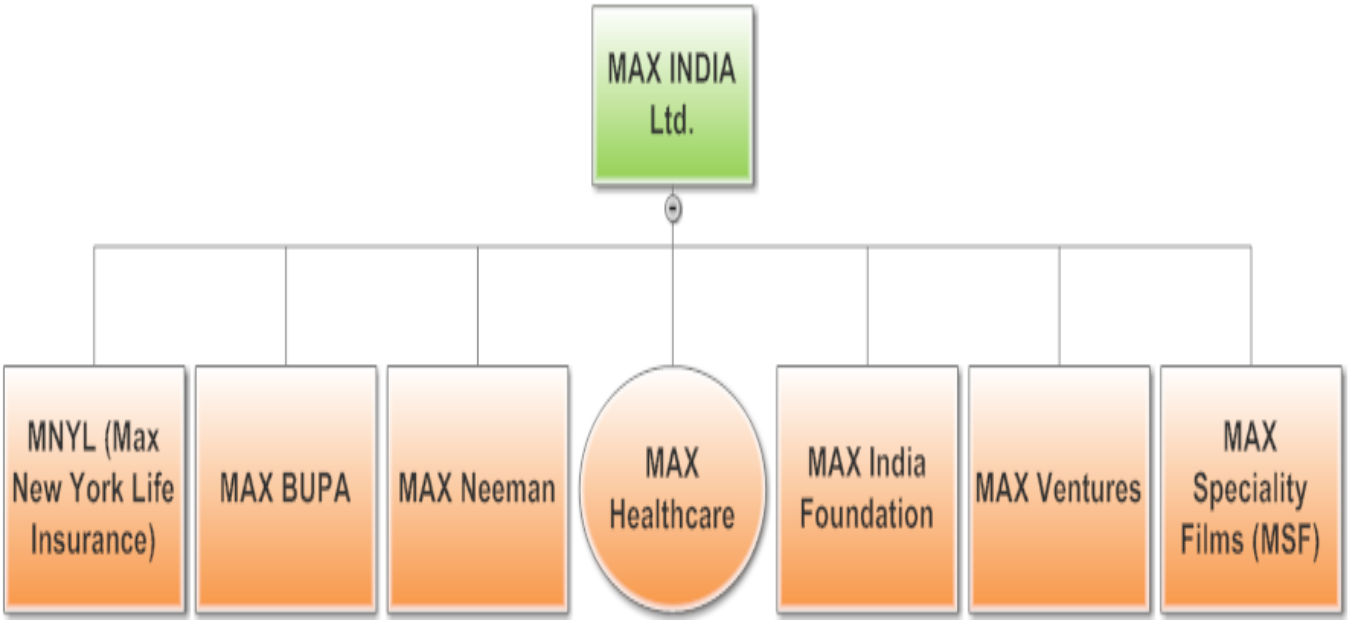
We 'Care for life' through our Healthcare Company, Max Healthcare, a subsidiary of Max India Limited.

We Enhance life' through our Health Insurance company, Max Bupa Health Insurance, a Joint Venture between Max India and Bupa Finance Plc, UK

Our vision is to improve life through our Clinical Research business, Max Neeman Medical International; a fully owned subsidiary of Max India. Max India recently entered the Senior Living business with Antara, a fully owned subsidiary of Max India. From its past, Max India continues its interest in the manufacture of Speciality Products for the packaging industry.
Max India Group's consolidated turnover for FY12 was Rs. 85,623 million and the consolidated operating revenue was Rs. 76,958 million, a growth of 15% above the same period last year. The Group is on a high growth path, with a customer base of 5.1

million, over 500 offices across 400 locations in the country and people strength of 57,000 persons as on March 31, 2012.

MAX INDIA Ltd. Overview-



Max New York Life Insurance (MNYL):

MNYL was started in 2000; it is Joint Venture between Max India and New York Life International. It provides comprehensive life insurance solutions to its customer across their life stages.

Max India Foundation (MIF):

MIF is a CSR initiative of various Max India group companies; it aims to provide improved access to quality health care to the people under Poverty line, conducting immunization camps for children between 0-12 years, improving awareness of environmental issues.

Max Bupa Health Insurance:

It is Joint Venture between Max India and Bupa, it provides health insurance benefits such as in-patient treatment, hospital accommodation, medical expenses etc. it was started in 2009.

Max Neeman Medical:

Max Neeman medical international was started in 2001, it offers services to global Pharmaceuticals biotech and device companies in conduct of clinical and device trials.

Max Health Care:

Max Health care was started in 2001, it is one of the leading health care providers in India, with the base of over 750000 patients, and it covers the Entire Delhi NCR and Northern India.

Max Ventures:

Max Ventures Ltd, New Delhi India, an affiliate of Max India is developing its unique Products in Hospitality, senior living, integrative medicine and medical education. Max ventures projects division comprises of a team of professionals with extensive experiences in Project management.

Max Speciality Films (MSF):

It is a fully owned business specializing in the manufacture of wide range of packaging unrealized BOPP films including high barrier films, thermal lamination films and leather finishing foils.

MAX HOSPITALS:

With over 1900 beds and 12 hospitals in Delhi-NCR, Punjab and Uttarakhand, over 1600 world-class doctors and 5400 support staff, Max Healthcare is one of the leading chain of hospitals in India. With 275 ICU beds & the most advanced technology, our state-of-the-art infrastructure is rated the best in North India thereby making Max Healthcare one of the best hospitals in India.

- Max Hospital, Gurgaon
- Max Super Speciality Hospital, Saket (East block & West block)
- Max Super Speciality Hospital, Patparganj
- Max Super Speciality Hospital, Shalimar Bagh
- Max Hospital, Pitampura
- Max Medcentre, Panchsheel Park
- Max Speciality Clinic, Panchsheel Park
- Max Super Speciality Hospital Mohali
- Max Super Speciality Hospital, Bathinda
- Max Super Speciality Hospital, Dehradun
- Max Hospital, Noida

ACCREDITATIONS:

- The Max Institute of Minimal Access, Metabolic & Bariatric Surgery has accredited as a centre of Excellence for providing state-of-the-art Clinical Services and Surgical Training Programmes for Abdominal Wall Hernia Surgery.

- Max Super Specialty Hospital, Saket was awarded FICCI award for Operational Excellence in Healthcare Delivery.

- FICCI awarded Max Super Specialty Hospital, Patparganj with the Healthcare award for Operational Excellence in Environmental Conservation.

- In the inaugural edition of FICCI Healthcare Excellence Awards, Max Super Specialty Hospital, Saket was acknowledged one of the Best Hospitals for ‘Excellence in Healthcare Delivery’.

- Max Healthcare was awarded the prestigious DL Shah National Award on 'Economics of Quality' from Quality Council of India.

- The Blood Bank at Max Healthcare was awarded the 'NABH Accreditation for Blood Bank'.

- Max Super Specialty Hospital and Max Devki Devi Heart & Vascular Institute at Saket, the two tertiary care hospitals of Max Healthcare, are the first two hospitals of North India to have received the prestigious accreditation from National Accreditation Board for Hospital & Healthcare Providers.

- Max Labs 24x7 at MSSH, Saket was certified by The National Accreditation Board for Testing and Calibration Laboratories (NABL).

- Five Hospitals of Max Healthcare are ISO 9001:2000 certified. They are located at MHVI-Saket, Max Balaji - Patparganj, Max Hospitals at Pitampura and NOIDA and Max Med Center – Panchsheel. Max Hospital - Pitampura has also been certified for ISO: 14001:2004.

MISSION & VISION:

Key Differentiator:

- Focused NCR Centric delivery-for operational Excellence
- Close to customer-Geography
- Comprehensiveness of medical services(except Organ transplant and Radiotherapy)
- Leadership in 5 super specialities in tertiary care-star Physician supported by a group of high quality Physicians
- Ethics
- Memorable Brand experience
  -Star and quality Physicians
  -Infrastructure and equipment
  -No surprises- cost of care, Pricing, medication
  -Signage
  -Look-Fell-Smell-Touch
- Innovation to bring in Walk-in-customers
  -Location location
  -Max Health plan under roll-out
  -Other new Programme that is, Golden years, Life Membership, Prepaid
- High quality nursing and paramedic care, supported by Paramedic and Nursing college
- Technology and IT (in 18 months)
- Extensive emphasis on training.

MAX HOSPITAL (GURGAON):

Max hospital Gurgaon is a multi-speciality hospital, owned and operated by Max Healthcare Institute Ltd. (MHIL). The hospital is designed to provide the highest levels of professional expertise and world class care in all the major disciplines.

INFRASTRUCTURE:

Max hospital is ideally located in the neighbourhood of south city- I, approximately 1.5 kilometers from the NH8 and 6 kilometers away from the airport. It is easily accessible from all the satellite townships of Delhi, NCR.

The facilities has been designed by an international architect and constructed in conformity with the accepted global standards for hospitals. The institute is spread over a total area 97,000 sq. feet, spread over four patient floors.

Max hospital is centrally air conditioned and has more than 100 beds (with Deluxe, single, double and 3 bed and 4 bed rooms), 2 modular OT and a 12 bed ICU. The clinical services are supported with the most advanced in house diagnostic services. It is equipped with a state of the art Emergency response and management system.

The hospital also provides other specialized services like NICU, PICU, and an Endoscopy suite and dialysis facility among many others.

EMERGENCY SERVICES:

‘Second Save Lives’

Max hospital is equipped with a state of the art Emergency Response and Management System consisting of World class communication infrastructure, as well as a fleet of fully equipped advanced Life support ambulances manned by a highly trained crew. The emphasis is on quick and safe evacuation.

The common emergency number is 011-40554055.

Evacuation by ambulance is another dimension of the emergency service that focuses on evacuating critical patients from remote areas.

MAX PREVENTIVE HEALTH PROGRAMMES:

At Max Healthcare, we are totally committed to the age old adage 'Prevention is better than cure'. Our preventive health care programme comprises of a comprehensive set of tests, which have been specially designed keeping your needs in mind. Max Healthcare also offers some special packages such as—

- Gynaecology Package
- Busy Executive Package
- Cardiac Package
- Max 360^0 Preventive Healthcare Programme
- Computer users Package

1. INTENSIVE CARE UNIT (ICU):

The state-of-the-art 12 bedded multi-disciplinary ICU bears a very pleasant and aesthetic look. It has been designed to provide optimal patient comfort, infection control and ease of providing critical care, nursing care and the functional requirements of the unit. All patient beds are equipped with advanced monitoring system, to ensure close monitoring of the patient both from bedside and central nursing station. The ICU provides a 1:1 ratio of patient to nurse care along with the 24 hour supervision of experienced anaesthesiologists.

2. NEONATAL INTENSIVE CARE UNIT (NICU):

Current state-of-the-art NICU units with consultant level doctors are in attendance round-the-clock in NICU. Neonatal units provide multi speciality care to very small premature and sick babies suffering from various problems of prematurity.

3. **PEDIATRIC INTENSIVE CARE UNIT (PICU):**

An 8-beded state-of-the-art PICU provides care to critically ill children (round-the clock) suffering from life-threatening conditions such as accidents, trauma, encephalitis severe infections, asthma, pneumonia and severe respiratory failure as well as post operative

multi speciality surgical cases. PICU is staffed by highly experienced and internationally trained team of pediatric Intensivists and experienced nurses.

ENDOSCOPY UNIT:

The endoscopy unit performs the variety of procedures: EGD, Colonoscopy, Flexible sigmoidoscopy, bronchoscopy, Liver Biopsy, Endoscopic Ultrasound, Small Bowel Enteroscopy, and ERCP.

The endoscopy unit is staffed with Physicians from pulmonary surgery, gastroenterology/ hepatology, supported by able nursing staff and technicians.

HAEMODIALYSIS UNIT:

The Hospital has an 8 bedded specialized dialysis unit confirming to international standards. It provides haemodialysis to patients who have reached end stage kidney disease, requiring renal replacement therapy.

MODULAR OPERATION THEATRES (OT):

The OT complex is located exclusively on the first floor with sealed modular theatres with HEPA Filters, and both hand and foot operated Sliding sensor doors to minimize the surgical site infections. It has a birthing suite with a separated caesarean section OT and labour room. The OT's are equipped with State-of-the-art equipment like C-arms, operating microscopes, blood gas analysers, anaesthesia machines, phacoemulsification machines. The OT complex is managed by a team of highly experienced anaesthetists, Technicians and nurses. It also houses a large post operative area for SICU, ICU and day care patients.

DIAGNOSTICS:

RADIOLOGY:

- 16 slice CT Angio
- 1.5 Tesla MRI unit
- High resolution 4D ultrasound
- 500mA X-ray machine Fluoroscopy unit for routine X-rays and procedures like IVP and Barium is also available
- Mammography
- Bone Densitometry

PATHOLOGY:

The Department of Laboratory medicine is open 24 hours a day and every day of the year. It's a Hi- tech lab that has fully automated instruments which are directly interfaced with the hospital information system and laboratory information system.

The Laboratory comprises departments for Biochemistry, Haematology, serology, immunoassay, microbiology, electrophoresis, histopathology, cytology and clinical pathology.

CARDIOLOGY:

- Echocardiography
- 2D colour Doppler
- ECG
- TMT

SPECIALITIES:

1. Aesthetic & Reconstructive Surgery
2. Audiology & Speech Therapy

3. Cardiac Sciences
4. Dental Care
5. Dermatology
6. Ear Nose Throat
7. Endocrinology & Diabetes
8. Eye Care
9. Gastroenterology
10. General Surgery
11. Internal Medicine
12. IVF
13. Mental Health and Behavioural Sciences
14. Minimal Access, Metabolic and Bariatric Surgery
15. Nephrology
16. Neurosciences
17. Nutrition & Dietetics
18. Obstetrics and Gynaecology
19. Oncology / Cancer Care
20. Orthopaedics & Joint Replacement
21. Pediatrics
22. Physiotherapy & Rehabilitation
23. Podiatry
24. Pulmonology
25. Urology

SUPER SPECIALITIES:

1. Orthopedics:

a. Knee replacement

b. Hip replacement

c. Trauma

d. Arthroscopy

e. Sports injury

f. Pediatrics

2. Neurosciences:

a. Neurology

b. Neurosurgery

c. Spine surgery

3. Urology & Nephrology:

a. Prostate surgery

b. TURP

c. PCNL

d. Dialysis

INTENSIVE CARE SERVICES:

1. ICU (Intensive care unit)
2. NICU (Neonatal intensive care unit)
3. PICU (Pediatrics intensive care unit)

DIAGNOSTIC FACILITIES:

MRI, CT, X-Ray, Mammography, Lab investigation, Non Invasive Cardiology – ECG, TMT, ECHO, Holter, PFT, Stress Echo, DSE, Carotid Doppler, Physiotherapy & Rehabilitation.

24*7 SERVICES:

Pharmacy, Diagnostics, Lab, Ambulance & Emergency.

MILESTONES:

1985	**Max India Ltd. Listed in NSE and BSE with over 37,000 Shareholder**
2000	Max Medcentre, Panchsheel Park first Medcentre with OP facilities and day care
2002	Max Hospital, Pitampura first hospital to be ISO certified and first high end secondary care centre in New Delhi
2002	Max Hospital, Noida - Focus on Mother and Child care with Non-invasive Cardiology, Orthopaedics, ENT, Ophthalmology, Nephrology etc
2004	Max Heart and Vascular Institute, Saket First Super Tertiary Care Facility with Advanced Cardiac Life Support Ambulances and Air Evacuation Service
2005	Max Hospital, Patparganj - 1st Multispecialty Tertiary Care centre in East Delhi with 147 Beds, 3 OTs and 1 Cath Lab
2005	Max Eye and Dental Care Centre, Panchsheel Park. Dedicated Center for Ophthalmology and Dental Care
2006	Max Superspeciality centre, Saket. First Multi, Super Speciality Tertiary Care Location
2007	Max Hospital, Gurgaon. High End Secondary Care Centre in Gurgaon
2007	Max Healthcare receives NABH & NABL certification for its laboratories.
2008	Max Healthcare receives Express Healthcare Awards for Excellence in Healthcare
2009	Max Healthcare receives D L Shah National Award on 'Economics of Quality' by Quality Council of India
2009	Max Healthcare receives NABH Accreditation for Blood bank

2011	Max Super Speciality Hospital, Shalimar Bagh- Max Healthcare Consolidated its position in Delhi & NCR through the launch of its 300 bedded Facility in Shalimar Bagh in November 2011.
2011	Max Super Speciality Hospital, Mohali- Max Healthcare extended its footprint in North India (in PPP with Govt. of Punjab) in September 2011.
2011	Max Super Speciality Hospital, Bathinda- Max Healthcare extended its footprint in North India (in PPP with Govt. of Punjab) in September 2011.

FLOOR WISE DIVISION OF DEPARTMENTS:

The Hospital has 3 Floors with lower and upper Basement.

LOWER BASEMENT:

- Housekeeping store
- Uniform Room
- 4 Changing Rooms (2 rooms each for male and female)
- Pump Room
- Compressor Room
- AC Plant Room

UPPER BASEMENT:

- Medical Record Room
- Security Control Room
- LT panel Room
- Finance and Accounts
- Engineering Room
- Biomedical Engineering Room

- Staff Cafeteria
- IT Room
- UPS Room
- CSSD
- Pharmacy Store Room
- AHU Room
- Laboratory
- Mortuary
- Decontamination Room
- Fire Pump Room

GROUND FLOOR

- Help desk
- TPA desk
- Admission desk
- Billing desk
- Visitor's Cafeteria
- Sample Collection Room
- OPD Chambers
- Kitchen
- PHP desk
- Diagnostics
- Patient Waiting area
- Emergency
- Pharmacy
- Clean Utility Room
- Optical

FIRST FLOOR:

- Endoscopy unit

- Dialysis unit
- ICU
- OT Complex
- Birthing Complex
- NICU
- PICU
- Patient Waiting Lounge
- OPD Chamber
- Dirty Utility Room

SECOND FLOOR:

- Administration
- HR
- Purchase
- Wards & Rooms
- OPD Chamber
- Doctor’s Duty Room
- Quality department

THIRD FLOOR

- Eye care centre
- Billing Desk
- Day Care
- OPD Chambers
- Wards & Rooms
- Physiotherapy
- IVF centre
- Labour Room
- Diabetic centre

OPD:

The objectives of department:

- Present correct information and inquiry handling.
- Perform registration, OPD cash and credit billing within the target time.
- Scheduling appointment for Doctors.
- Guide patients/attendants/visitors in the facility.
- To drive satisfaction and delightful experience.

The OPD is located at ground floor, First floor, second floor and third floor.

The functions are:

- Registration has done by the front office assistant and they generate one MAX ID number for the new patient.
- Billing has been done either for the consultation/investigation.
- They provide information/enquiry to the patient and their attendant.
- Consultation of the Doctors.
- Telephonic query handling.
- Counseling regarding package.

IPD:

The main IPD reception is located on the ground floor. The patient comes at the reception, new IPD number is generated in the UHID number only and the patient then goes to the counseling room ,where he is informed about the all the expenses of the treatment and they fill the consent form, then they provide the room to the patient. Patient will usually be admitted through the following ways-

- Through OPD, advised admission by consultation with our consultants.
- Through emergency.
- Through referral to our consultants.
  Patients have a choice of staying either in wards, of 4 bedded room, 3 bedded, 2 bedded rooms, single and deluxe rooms.

After the patient is admitted, the nurses indent all required medicines and medical consumables that would be needed by the patient in the Med Track System. The Pharmacy department then gets the messages through the system and then dispatches the medicine to the respective floor .In the similar way the nurses indent the medicines prescribed by Doctors for the patients.

When the Patient is admitted the dietician is informed through the system and then dietician prepares the diet chart for the patient and F&B department is given the same.

When the patient is being discharged either the doctor informs one day before or on the same day. The Doctor prepared the discharge summary ,and nurse send the billing sheet to the billing department for the bill preparation, nurse returns extra medicine to the pharmacy department, pharmacy accepts returns and updates system .Billing department prepares bill and when bill is prepared, billing department informed to the patient attendant through message and call. Then bill settlement is done by the patient attendant.

PCS

There are three counters at the reception- OPD Registration, IPD admission and help desk

OPD Registration Counter

It deals with all the registration related to OPD.

When a patient comes first time to the Fortis Hospital, patient is given a registration form and after the patient fills that form, patient is given UHID (Unique hospital identity number) and next times he comes UHID number remains, IP number changes. All the billing related to OPD Consultation, Procedures and LAB and Diagnostic Tests are done here. The Consultation fee is different for different doctors.

IPD Registration

Patient is told about the rough estimate of the cost and a consent form is given to the patient. Only IPD admission is done here. For billing a separate counter is there.

Help desk

Patient takes appointment of the doctor from here and can ask all other information from here. .

The functions are:

- Patient reception
- Solving patient query
- Giving appointments
- Billing of consultation, lab services and diagnostics

BILLING:

All the billing related to IPD patients are done here.

On daily basis auditing is done regarding all the transactions of the procedures done on patients like Lab test, diagnostic test and surgical procedures and consultation charges of the doctor and all the medications have been recorded by the nurses in the system with nursing bill

At the time of discharge a checklist is maintained that consists of

- Nursing bill sent time
- Discharge received
- Discharge initiation time
- Pharmacy clearance
- Financial discharge
- Bill sent to TPA (in case of TPA patients)
- Bill given to cashier
- Inform attendant
- Bill settlement time

When a patient is discharged nurses send a nursing bill to the billing department and then at billing department note the time and start billing procedure. They check the

nursing bill with all the entries made in the database system. Then they check whether pharmacy have made the clearance. After the pharmacy gives the clearance in the system, then financial discharge is done. After this no transaction can be done of that patient. Then bill is sent to cashier or in case of TPA patients to TPA. The patient's attendant is informed by a call and a message that bill is ready.

PATIENT WELFARE DEPARTMENT:

The department is located at the ground floor. The main aim of the department is to make and position the hospital as a 'centre of Excellence' by ensuring customer satisfaction through personalized customer care, following the guiding principles of empathy, care and compassion to make the patients feel cared for. The scope and complexity of services provided by this department is to enhance the customer satisfaction.

The objectives of PWD are to -

- Handle in-house public relations with patients/ relatives and other visitors.
- Ensure that our processes are 'customer centric'.
- Ensure these are followed.
- Create a pleasant experience for the patients and their attendants.

EMERGENCY:

The Emergency department specializes in focusing on triaging, diagnosing, providing primary care& treatment of acute illness & injuries that require medical attention. The emergency constitutes 5-10% of the hospital bed strength. The emergency is located at ground floor, & is provided with separate entrance. The location of emergency is such that it had an easy access to radiology, laboratory. The emergency department had a reception area, procedure room, triage room, examination room & ward. In the triage room the patients are prioritized according to the urgency of the treatment required.

The main functions are

- Emergency patient management
- ALS
- BLS
- Transportation by the ambulance
- Dead patient management.

From emergency department patient either discharged or shift to the wards, ICU, and dead patient to the mortuary.

INTENSIVE CARE UNIT:

The ICU is a department where critically ill patients are admitted for intensive and specialized care.

There are 3 ICU's in the hospital – MICU, NICU, PICU are located at the 1st floor.

All these ICU's had a waiting area for the patients' relatives. There is a specific visit time. Outside the ICU there is a duty doctor's room, changing room. There is a nursing head assigned in each ICU. There are three shifts of the nurses. There is an isolation room present in the ICU.

OPERATION THEATRE COMPLEX:

The OT complex is located at the first floor. The aim of the department of OT and Anesthesiology is to provide the highest quality of care for the patients undergoing various types of surgeries. The OT complex has 2 OT dedicated to various specialties'. They are fully equipped with newest technology equipment ensuring world class treatment for the patients. OT complex has – 2 OT's, Pre operative room, post operative room, CTV's ICU, Doctor's longue, Paramedic Lounge, changing rooms, Anesthesiology department. The OT has Laminar flow systems fitted with HEPA filters to create an infection-free environment. In addition to these, the OTs is equipped with state-of-the-art computerized navigation systems and high flexion implants.

BIRTHING COMPLEX:

It is on first floor. And Labour room is located at the third floor.

DIAGNOSTICS:

The diagnostics department is located at the ground floor.

It had following equipments:

- 16 slice CT Angio
- 1.5 Tesla MRI unit
- High resolution 4D ultrasound
- 500mA X-ray machine Fluoroscopy unit for routine X-rays and procedures like IVP and Barium is also available.
- Mammography
- Bone Densitometry

LABORATORY:

The laboratory is located at Upper basement. The laboratory is divided into 3 subparts- pathology, biochemistry and microbiology. All the billing related to laboratory is done at the OPD counter only. whenever patient is advised any lab test he then goes to the reception counter then pays the bill ,then patient goes to the sample room for giving the sample, sample is then send for the lab test and they gives the report either on the same day or on the next day.

PHARMACY AND STORES:

The pharmacy is at ground floor and store is located at upper basement.

PHARMACY

The main work of pharmacy is compounding and dispensing medicine. The medicines and consumables are kept systematically. The medicines and vaccines that need cold storage are kept in refrigerators. When a patient is discharged a list is send by the nurse

if any medication is to be returned. It is entered into the system and deducted from the patient bill and pharmacy gives the clearance.

The nurses indent the medicines and medical consumables in the MED TRAK system by adding in patients ID. The pharmacy gives the medicines according to the indent given by the medicines. If the medicine is finished the indent is unpacked and the nurse is informed and asked to indent again by telling the brand that is available.

STORES

Here all the high cost consumables and medicines needed in the surgery are ordered on the Vendor Management inventory (VMI) basis. The equipments and medications are with vendors and taken from them according to the need. VMI is of two type- cases and inventory basis.

CSSD

The CSSD department is located at the UPPER basement.

The objective of establishing this department is to make reliably sterilized articles available at the required time and place for any agreed purpose in the hospital as economically as possible.

The functions are:

- It receives stores, sterilizes and distributes to all departments including the wards, OPD and other special units.
- It processes and sterilizes syringes, rubber goods (catheters, tubing etc.), surgical instruments, treatment trays and sets, dressing etc.
- It ensures economic and effective utilization of equipment resources of the hospital under controlled supervision.

The CSSD department is located at the upper basement.

It is divided into three zones decontamination area, clean area and sterilization

In decontamination area the used instruments from various departments come through Dumbwaiter lift or manually and entry is done in record register. The instruments are

cleaned in wave cleaner, multi enzyme cleaner and washed by disinfectant. Then the instruments are sent to clean area where they are packed and put in sterilizers for sterilization. The various sterilizers are steam sterilizers and Ethylene Oxide sterilizers. They have two doors one in clean area from where the clean instruments are put and the second door opens in the sterilized area where the sterilized equipments are taken out. They are the dispatched to the various departments through lift. The sterile sets are checked for color change. Biological indicator test, bowie-dick test and other chemical indicator test are conducted daily.

MEDICAL RECORDS DEPARTMENT

The medical records department is located at upper basement.

The functions are

- Proper storage and maintenance of medical records
- Maintenance of integrity and confidentiality of medical records
- Submission of required data to government
- Classify the medical files as per ICD-10
- Obtaining missing patient files
- Online birth and death registration.

They keep the record for 10 years for the expired patients and 5 years in general.

BIOMEDICAL ENGINEERING

The main objective of the department is to facilitate the usage of latest technologies in the diagnosis, treatment and care of patients. It is responsible for proper usage and quality performances of these costly equipments and tools inside the hospital. The department maintains

- records of hospital equipments
- conduct daily rounds to ensure the smooth functioning of the equipments
- facilitation and identification of equipment requirements
- planning technical comparison
- ordering installation

- deployment of all existing units and new projects
- conduct regular preventive maintenance servicing for all equipments at regular intervals
- facilitation equipment replacement

ADMININISTRATION

Administration department is located in the basement area. It has following department-

- General administration
- Finance
- Marketing
- IT
- HR
- Medical administration

GENERAL ADMINISTRATION

It includes-

- Security
- F & B
- PCS
- Engineering
- Purchase
- Stores
- Pharmacy

MEDICAL ADMINISTRATION

- Quality
- Dietetics
- Max information system

MARKETING

The main functions of department are-

- Branding and promotion
- Online marketing
- Corporate link ups
- Conduct CMES
- Prepare brochures and pamphlets
- International patient dealing

FINANCE AND ACCOUNTS

Under the finance department comes billing and finance.

The functions of the financial departments are interlinked with the functioning of practically all other departments. The primary and essential functions of this department are:

- To maintain financial records
- To make payments of bills and expenses on time
- To collect accounts due
- To monitor the cash flow/ funds
- To make payments of wages and salaries
- To provide information regarding financial condition to managers and decision makers of the hospital
- To make patient related bills.

IT DEPARTMENT

The Functions of IT department is**:**

- Maintenance of all the software's in the hospital.
- Modifications of the software are as per the requirements of the department.
- It covers the following modules:
    - IPD Billing

- OPD Billing
- Administration
- House keeping
- Ward/Nursing
- Diet
- Visitor’s pass
- Stores
- Purchase
- LIS
- RIS

HUMAN RESOURCE

The main Functions are

- Development of HR policies and strategies
- Manpower Planning
- Recruitment and Selection
- Employee Training
- Salary Determination
- Performance Appraisal
- Personnel Data entry and record maintenance
- Consultation and Advisory services to management and employees
- Grievance Handling

HOUSEKEEPING

The housekeeping department is located at the basement. It is outsourced to Rare Hospitality services. Each floor is assigned a housekeeping supervisor who is the incharge of all housekeeping functions of floor.

The main functions are -

- Sanitation and Hygiene
- Odor control
- Waste disposal

- Pests, rodents and animal control
- Interior decoration
- Infection control
- Laundry services
- Uniforms

STORE AND PURCHASE

Stores receives all equipments, instruments and items of raw material, consumables, printing and stationary, medicines and other essential goods required by the hospital.
The main functions are:

- Procurement of stores through indigenous and foreign resources
- Checking of requisition and purchase indents
- Negotiating contracts
- Issue of purchase order
- Follow up of purchase orders for delivery in time
- Serving as an information centre on the materials' knowledge.

ENGINEERING AND MAINTENANCE

The engineering department is located at the Upper basement. The equipments under the department are AC plant, chilled water pump, condenser pump, AHU, package unit, electrical substation, fire system, RO plant pump, hot water pump, medical gases.
The main functions are**-**

- Installation and commissioning
- Breakdown call management
- To maintain electric and water supply
- Air conditioning and refrigeration
- Intramural transportation

SECURITY

Security department is located at the upper basement

Security services ensure the total safety and security of the internal as well as external customers.

The main functions are-

- To secure the infrastructure and hospital property
- Safety of patients
- Control of flow of visitors
- VIP security
- Parking management

FOOD AND BEVERAGES

The F&B store is located at the basement and the kitchen is located at ground floor.

The main functions are**-**

- To ensure that PMS is done according to F & B service standards
- To ensure proper room service to the attendants.
- To check the quality of grocery items as per the approved brand list and standard specifications
- Food services to consultants, doctors, and rest of the staff
- Food services extended during guest visit, CME, workshop and other important meeting.

Waiting Time Analysis:

ISSUE: Long Waiting Time of Patient for OPD consultation

PROBLEM STATEMENT: What Factors have been responsible for the long waiting time of patient for OPD Consultation?

STUDY BACKGROUND

Health care industry growing day by day as it has become one of the largest service industry, the competition among the health care providers is also reach at peak. Along with it expectations of the customers (patients) are also intensified. Now patients expect quality services from the providers therefore many quality concepts came in focus in hospitals eg - Accreditation for quality standards, Six sigma, lean health care practice etc. Care with patient satisfaction is the common goal of every hospital in now days. By providing the quality patient experience, hospitals can win patient loyalty and secure the position of provider of choice in competitive healthcare marketplace.

Quality is thus a perception that is based on an individual's value system. It relies heavily on the culture, life experiences, and expectations of each individual. Quality receives a new definition in each interaction between an individual and an item for which the term is evaluated**.** It is "one of those things that is very difficult to define, but that anyone can recognize-I know it when I see it." High quality is achieved by continual improvement in terms of customers' expectations. The aim of continuous quality improvement is to meet the customer, not just the competition.

Health care delivery is a complicated process which involves large numbers of workers. Different workers have different customers, depending upon the nature of an individual worker's job assignment. “Quality” health care has a wide variety of meanings. To some people, sitting in the waiting room a short time to see a doctor means “quality” health care. To others, being treated politely by the hospital staff means “quality” health care. There are those who define “quality” health care by how much time the doctor devotes to examining patient.

There are many services which patient experiences and on that basis one can analyses the hospital facilities in good or bad ways. In OPD, the services affects the patient more are billing services, nursing services, and other diagnostics services etc. these are likely to be well remembered by the patient. Even if everything else went satisfactorily, the slow and delayed billing and diagnostics services may result in low patient satisfaction and hence increased waiting time.

A good and effective services experience leaves the patient with positive emotions and a strong affinity for returning to the facility.

Patient's long waiting time for consultation due to inefficient services not only increases dissatisfaction with the health care provided by hospital, but also decreases the foot fall of the patients towards the hospital. Patient dissatisfaction reflects upon the quality of health care provided by the hospital, thus it is necessary to study the cause of inefficiencies in the services and locate bottlenecks in order to improve the services responsible for patient's long waiting time in the hospital outpatient department.

RATIONALE/ NEED FOR THE STUDY:

As OPD is the department where every patient first interacts and observe the health care services they are providing, and they judge the quality of hospital by measuring their services on basis of waiting time, billing queue, time given by doctor to patient for examination, etc. So, the requirement is there to bring a change in these services, in order to improve these factors, need for this study raised.

REVIEW OF LITERATURE:

1. **Patient Waiting Time: It's Impact on Hospital Outpatient Department**
   Dr. Sandesh Kumar Sharma, Research Scholar (Hospital Management),Suresh Gyan Vihar University
   Dr. Sudhinder Singh Chowhan, Research Guide (Hospital Management),Suresh Gyan Vihar University

The Out Patient Department is critical process for any hospital. Short waiting times and a positive experience represent important drivers of patient satisfaction. Meanwhile, inefficient processes can result in lost revenues and poor community image, not to mention concern over patient safety. Since Out Patient Department (OPD) is frequently a patient's first experience with the hospital, improving the efficiencies is paramount to both customer satisfaction and hospital's bottom line. This study helps to know the unnecessary and delayed movements in the department so as that with this knowledge the management will be able to take adequate measures to improve the functioning of the department. The Research approach adopted in this study is Descriptive Study which helps to determine various sequential movements and time taken for each movement in the OPD through checklist. Outpatient department helps to identify and

eliminate unnecessary movements and benchmark the time and thus to provide efficient and effective patient care in OPD.

Patients attending each hospital are responsible for spreading the good image of the hospital and therefore satisfaction of patients attending the hospital is equally important for hospital management. Various studies about outpatient services have elicited problems like- overcrowding, delay in consultation, proper behavior of the staff etc. The study reveals the average time spent by the patients and also expresses their view towards the hospital and hospital's services in undergoing various procedures. The study throws light on the various services provided by the hospital and the total time consumed on each activity.

2. **Waiting time studies to improve service efficiency at national hospital of Sri Lanka**

   Mathugama, S.C

The National Hospital of Sri Lanka is the main teaching hospital and the final referral center of this country. This hospital provides number of patient services and it Is mainly responsible for delivering a comprehensive range of secondary and tertiary specialist care. This research was conducted to analyze current situation of waiting and overcrowding at National Hospital and to find out ways to provide efficient service to patients. This research is mainly focused on two areas, out patient management and inpatient management.

Out Patient Department of National Hospital comprises of General OPD section, Admission section and Emergency Treatment Unit (ETU). In this study, only the General OPD section was considered. Data collection was done through hospital records, observations and a questionnaire survey. Descriptive techniques, queuing theory techniques and simulation techniques were used in data analysis. Using GPSS/PC simulation language, existing queuing situation at General OPD was simulated. Long queues and high waiting times were found at Entry Counter, Room15, Room 2 and Room 5. OPD is overcrowded due to increased demand, unnecessary arrivals, and lack

of resources and ignorance of patients on OPD procedures. Most of the facilities for staff and patients are inadequate. To avoid unnecessary visits to OPD, are feral system should be enforced. To reduce queuing at some rooms alternative options were suggested. Proper inquiry counter should be implemented and proper directions should be given to patients in order to have efficient management at General OPD.

Inpatient section of National Hospital also provides a large number of patient services. Patient admissions were high for Medical, Surgical, Accidents, Cardiology and Orthopedic wards. The bed capacity of National Hospital is around 2900. This hospital has high bed occupancy rate, high throughput and very low bed emptiness. In some wards a considerable number of floor patients can be seen. These wards are overcrowded due to unnecessary admissions, lack of resources and improper utilization of available resources. By providing more resources, avoiding unnecessary arrivals and irregularities of staff and using computerization, services can be much improved at National Hospital of Sri Lanka.

3. Improving Turn Around Time (TAT) for Out Patient Department

P. D. Hinduja National Hospital & Medical Research Centre, Mumbai

P. D. Hinduja Hospital, Mumbai, is an ultra modern tertiary care hospital covering all specialties and diagnostics.

At the OPD, consultations are conducted on a scheduled basis for appointment and non appointment patients for dedicated services like pulmonology, cardiology, neurology, laboratory services, radiology services, physiotherapy, urodynamics, scopy, bronchoscopy and consultation of all specialties.

A well established feedback system enabled the hospital to capture the feedback of the outpatients, that is, appointment and non appointment patients. Data was collated for the past six months to study the perception of appointment patients on the OPD process. The data revealed that high waiting time was leading to long queues and high waiting time among appointment patients. Patient dissatisfaction in the OPD process is

further magnified because the hospital caters to approximately 1, 60,000 outpatients every year. OPDs act as a window to the hospital services by creating a brand image and positive perception of the hospital. The inefficiency in the OPD process, combined with dissatisfaction among appointment patients, could impact the branding and reputation of P.D. Hinduja Hospital, Mumbai.

In order to track the waiting time, a study was conducted for 15 days to capture the end to end OPD process for all the services. The study revealed that the wait time post handover of the voucher to the nurse or technician was causing the delay. In other words, it was the idle waiting time. The idle waiting time constituted around 40 to 50 minutes. On an average, the appointment patients accepted a norm to wait for 30 minutes, post voucher preparation.

The services having an idle waiting time beyond 30 minutes were:

Scopy - Upper Gastro Intestinal (UGI) and Lower Gastro Intestinal (LGI)

Consultation services (appointment patients)

The prime engines for Qimpro's approach to the LSS methodology are Value Stream Mapping (VSM) and Define- Measure- Analyze- Improve- Control (DMAIC). The total TAT for the OPD process was decomposed into sub-processes. Corrective actions to reduce TAT were applied sub-process by sub-process. The results were rewarding. The idle waiting time for consultation was reduced from 32 minutes to 14 minutes and 47 minutes to 25 minutes for scopy (UGI and LGI) services. The hospital was successful in converting 1300 patients without appointment to appointment patients in a month, that is, approximately 50 patients per day. The hospital established its profitability in terms of high patient retention; increased patient satisfaction followed by goodwill and enhanced reputation.

OBJECTIVES:

General Objective:

- Identification of factors responsible for long waiting time of patient for the consultation.

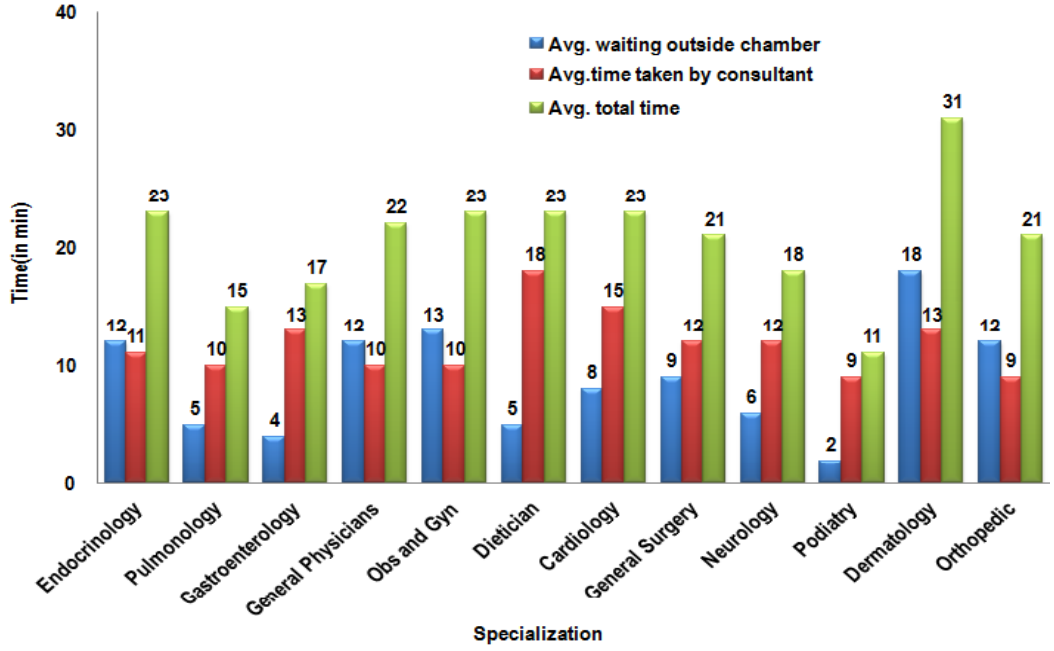
Specific Objectives:

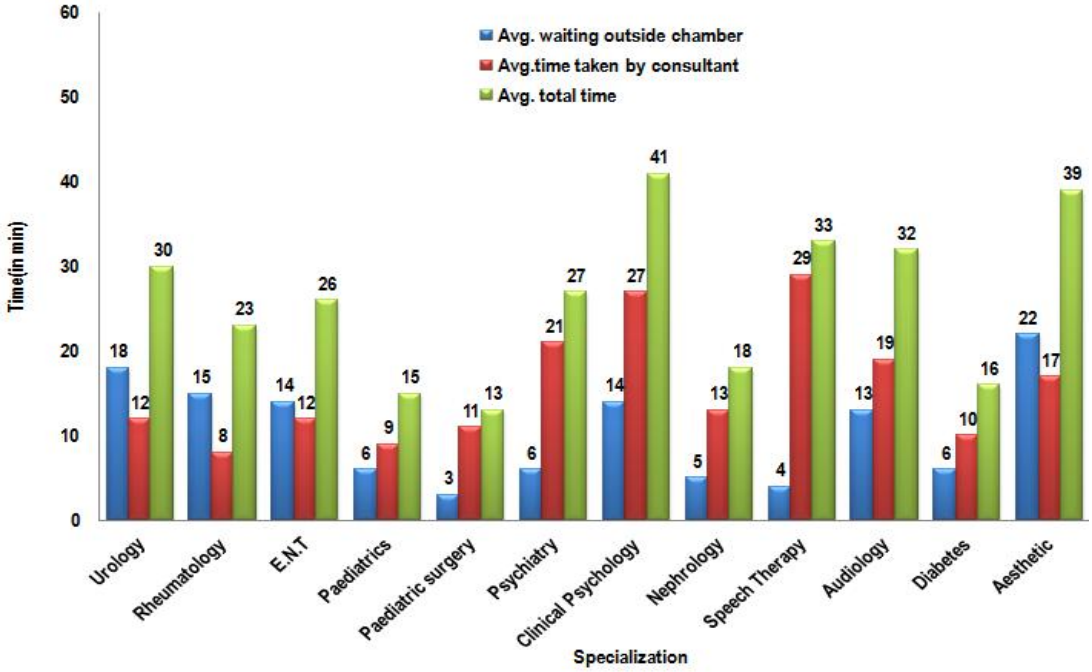
- To understand the each factor responsible for long waiting time.
- To measure the average time taken by each consultant in visiting one OPD patient.
- To measure average waiting time for each consultant.
- To recommend possible solutions to solve out the issues for long waiting time of patient for the consultation.

Methodology:

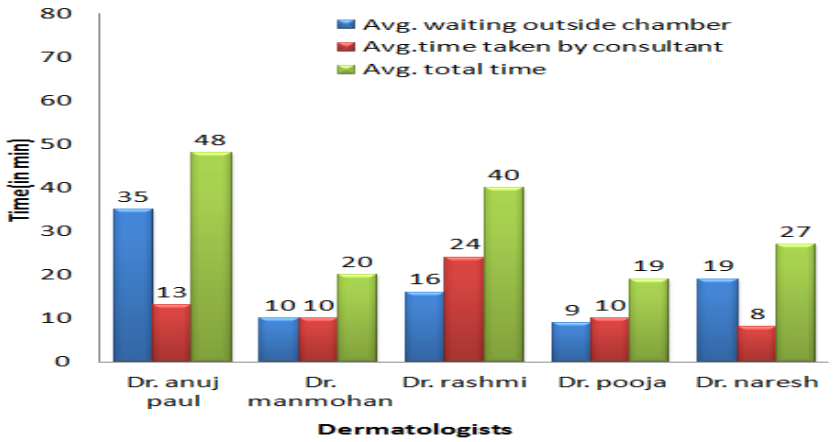
- **STUDY DESIGN** - Cross sectional descriptive study.
- **STUDY AREA** - Max Hospital, Gurgaon
- **STUDY POPULATION** - OPD patients and consultants
- **SAMPLE DESIGN**- Purposive sampling
- **DATA COLLECTION TOOLS** – MS-excel sheet for timings of OPD patients waiting
- **DATA COLLECTION TECHNIQUES** – Observational

STUDY FINDINGS:

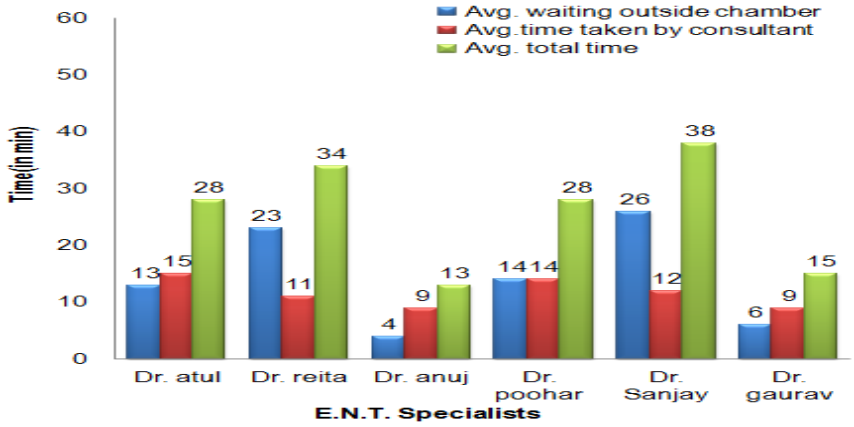

Avg. waiting outside chamber
Avg.time taken by consultant
Avg. total time
Time(in min)
Specialization
Endocrinology
Pulmonology
Gastroenterology
General Physicians
Obs and Gyn
Dietician
Cardiology
General Surgery
Neurology
Podiatry
Dermatology
Orthopedic


Avg. waiting outside chamber
Avg.time taken by consultant
Avg. total time
Time(in min)
Specialization
Urology
Rheumatology
E.N.T
Paediatrics
Paediatric surgery
Psychiatry
Clinical Psychology
Nephrology
Speech Therapy
Audiology
Diabetes
Aesthetic

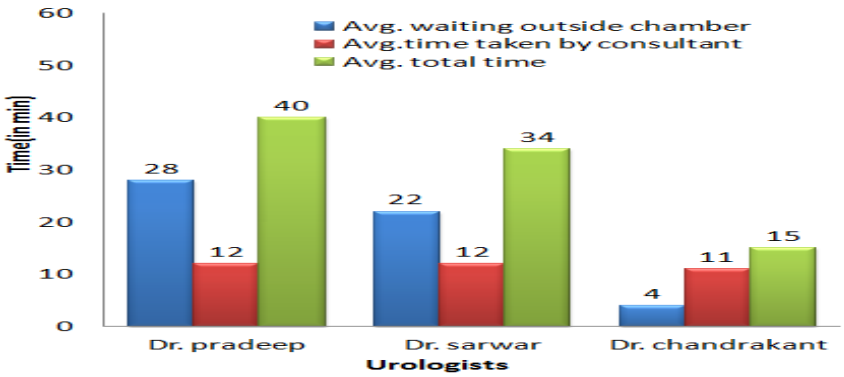
CONSULTANT	SLOT
Dr. Anuj	10 min
Dr. Manmohan	15 min
Dr. Rashmi	10 min
Dr. Pooja	10 min
Dr. Naresh	10 min



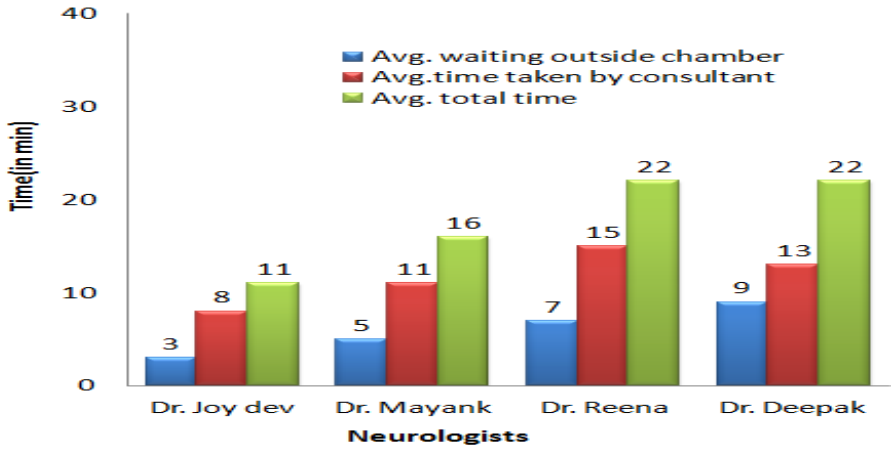
CONSULTANT	SLOT
Dr. Atul	10 min
Dr. Reita	15 min
Dr. Anuj	15 min
Dr. Poohar	15 min
Dr. Sanjay	15 min
Dr. Gaurav	15 min



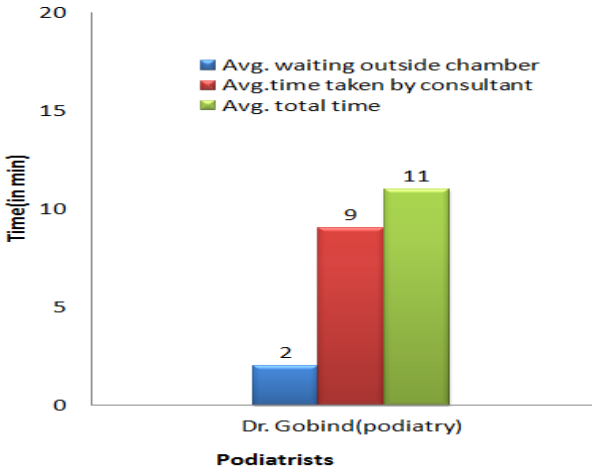
CONSULTANT	SLOT
Dr. Pradeep	15 min
Dr. Sarwar	15 min
Dr. Chandrakant	15 min



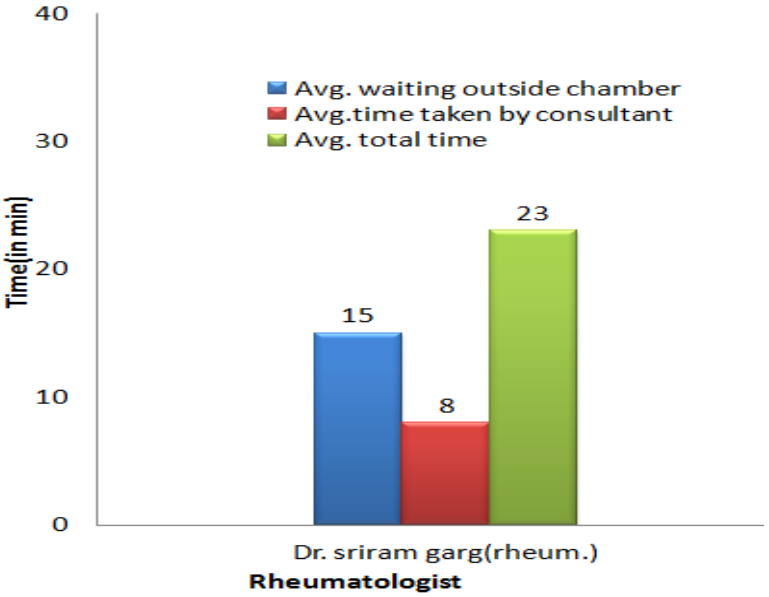
CONSULTANT	SLOT
Dr. Joydev	10 min
Dr. Mayank	20 min
Dr. Reena	20 min
Dr. Deepak	20 min



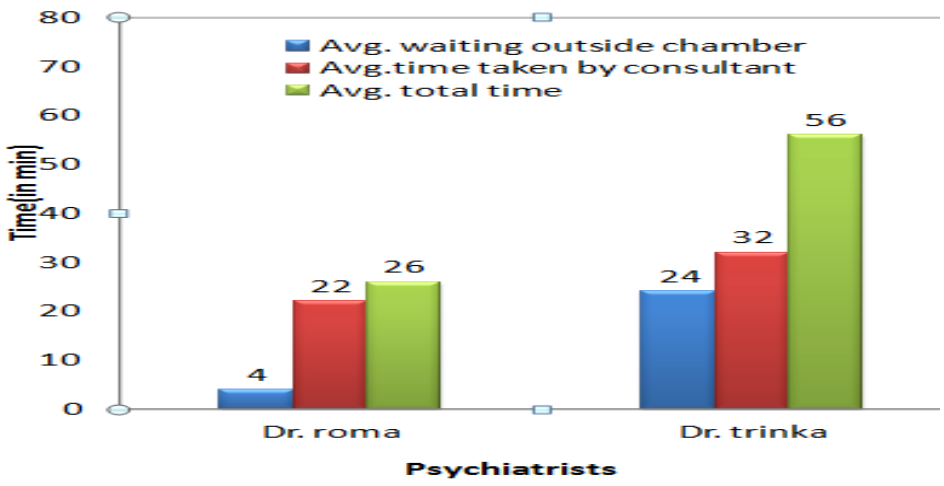
CONSULTANT	SLOT
Dr. Gobind	20 min



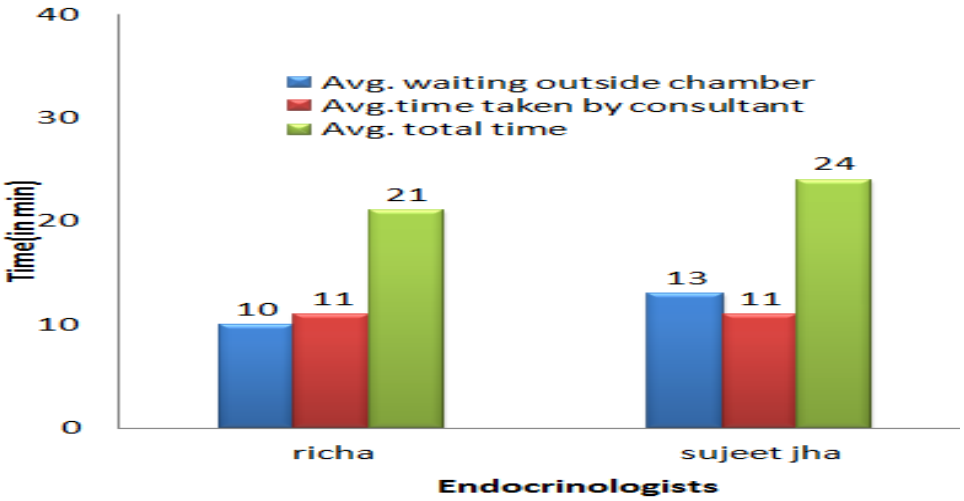
CONSULTANT	SLOT
Dr. Sriram	10 min



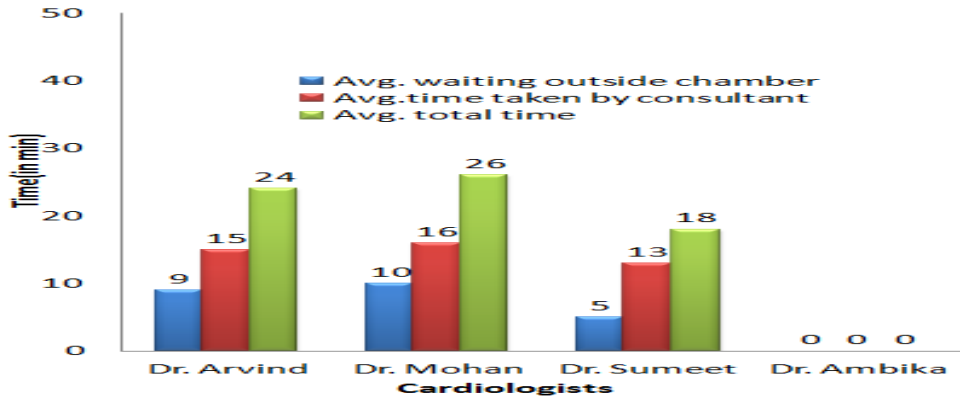
CONSULTANT	SLOT
Dr. Rooma	30 min
Dr. Trinka	30 min



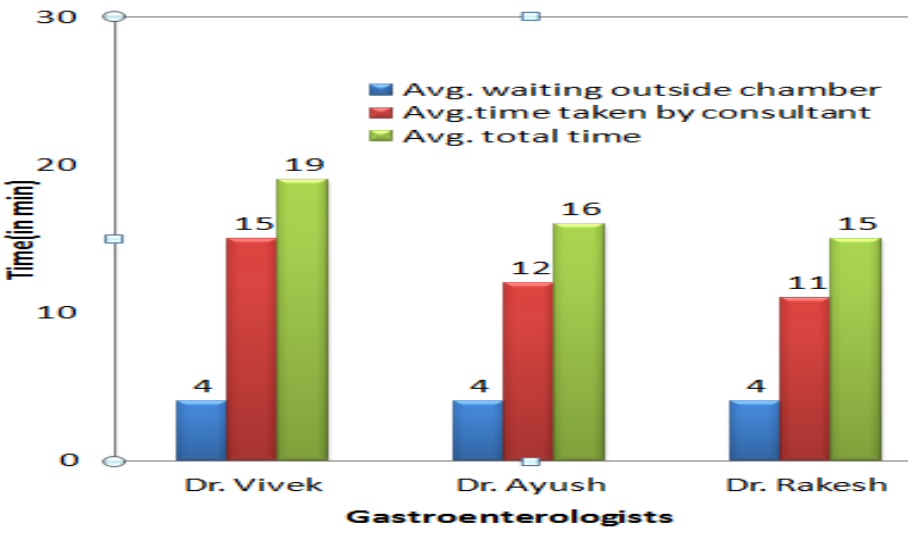
CONSULTANT	SLOT
Dr. Richa	10 min
Dr. Sujeet	15 min



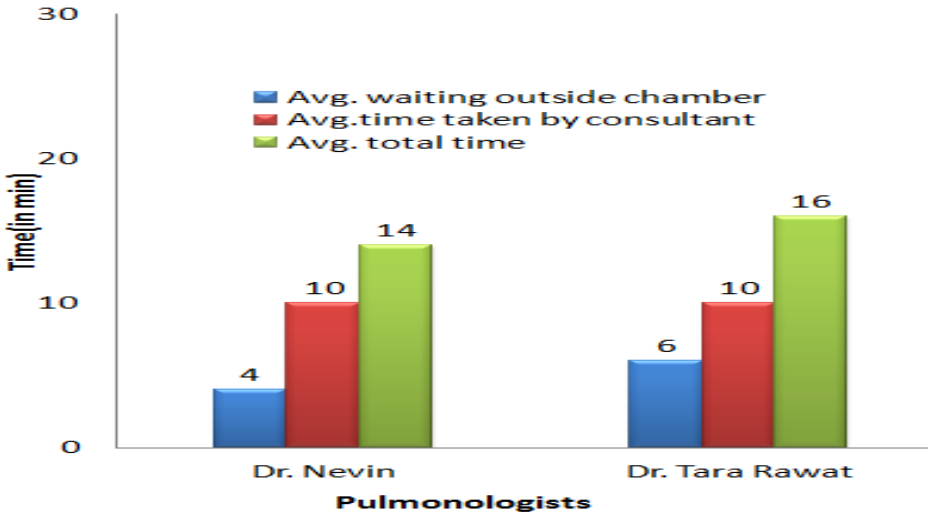
CONSULTANT	SLOT
Dr. Arvind	20
Dr. Mohan	15
Dr. Sumeet	15
Dr. Ambika	15



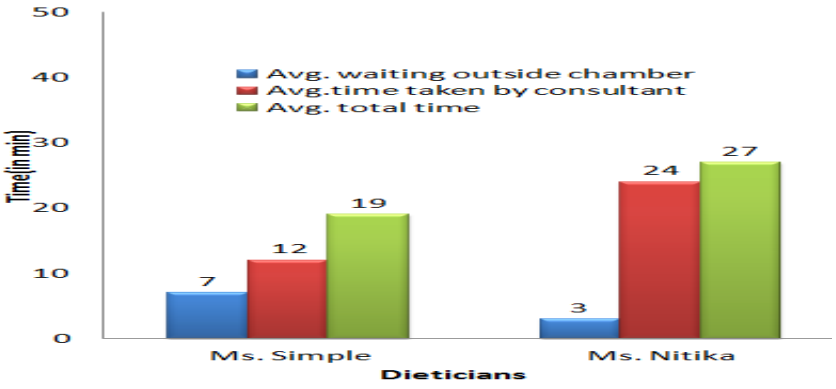
CONSULTANT	SLOT
Dr. Vivek	20 min
Dr. Ayush	15 min
Dr. Rakesh	15 min



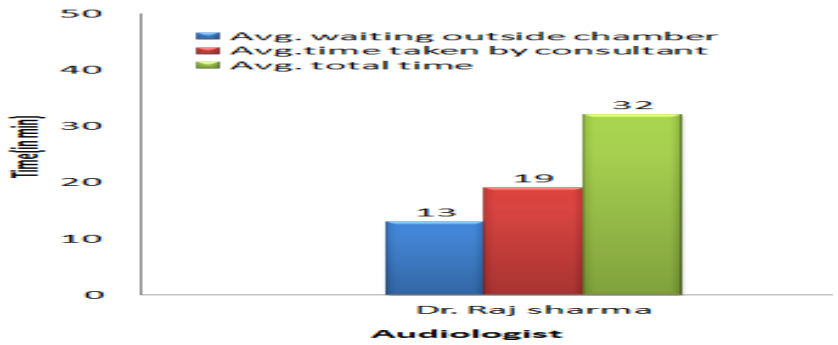
CONSULTANT	SLOT
Dr. Nevin	20 min
Dr. Tara	15 min



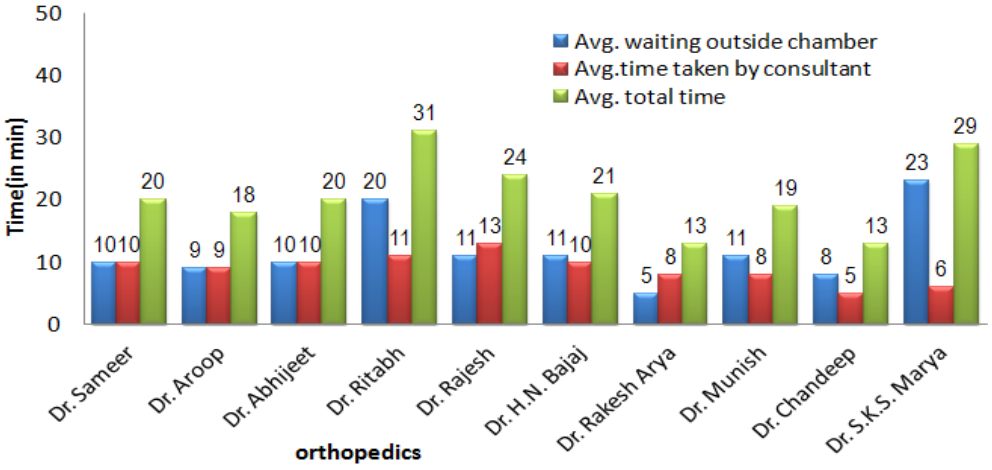
CONSULTANT	SLOT
Ms. Simple	20 min
Ms. Nitika	20 min



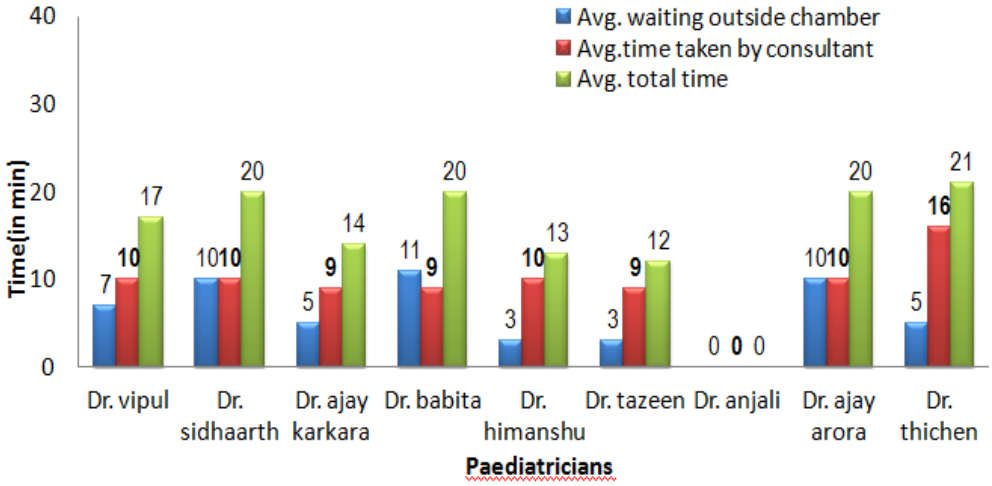
CONSULTANT	SLOT
Dr. Raj	30 min



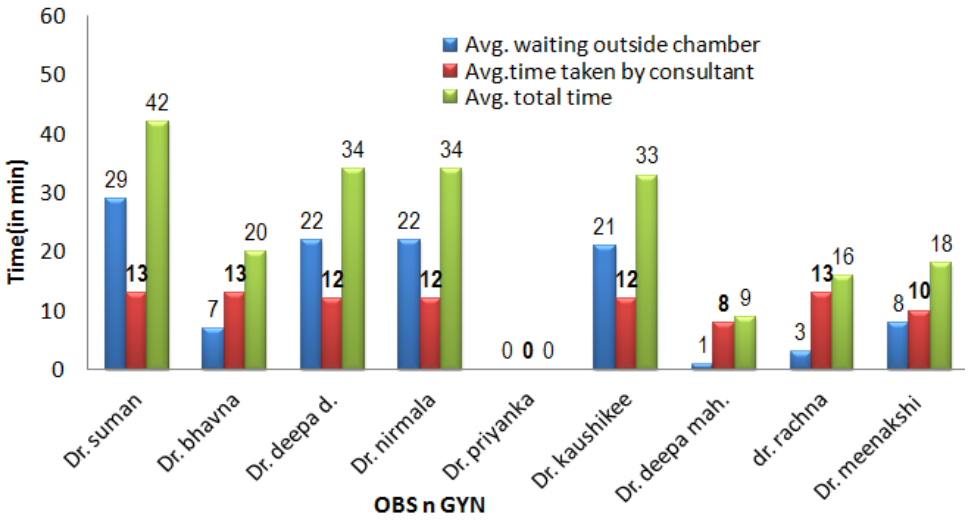
CONSULTANT	SLOT
Dr. Sameer	10 min
Dr. Aroop	10 min
Dr. Ritabh	10 min
Dr. Rajesh	10 min
Dr. H.n. bajaj	10 min
Dr. Rakesh	10 min
Dr. Munish	15 min
Dr. Chandeep	15 min
Dr. S.k.s marya	15 min



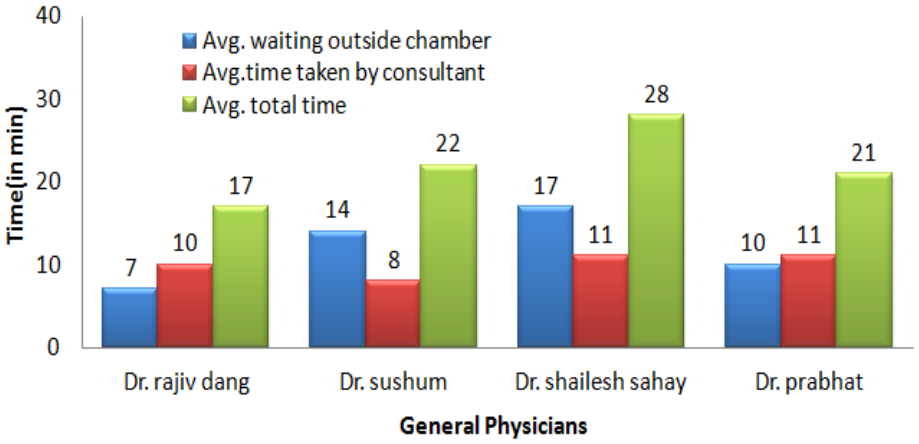
CONSULTANT	SLOT
Dr. Vipul	15 min
Dr. Sidharth	15 min
Dr. Ajay kar.	15 min
Dr. Babita	10 min
Dr. Himanshu	15 min
Dr. Tazeen	15 min
Dr. Anjali	30 min
Dr. Ajay arora	10 min
Dr. Thichen	20 min



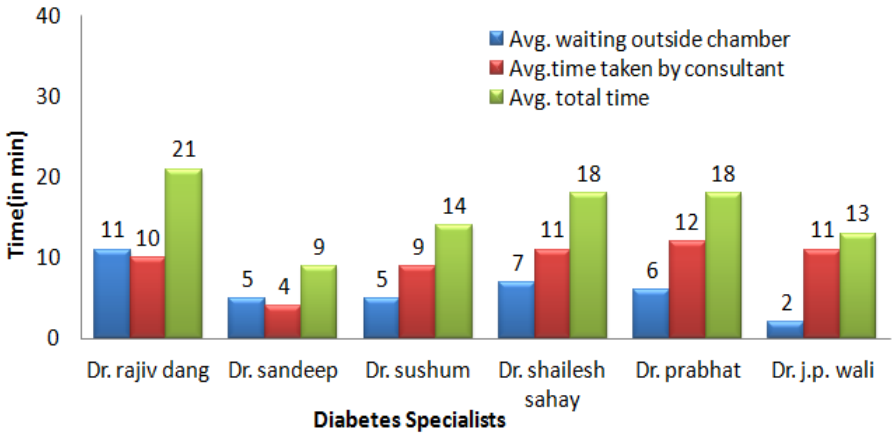
CONSULTANT	SLOT
Dr. Suman	15 min
Dr. Bhavna	15 min
Dr. Deepa d.	15 min
Dr. Nirmala	20 min
Dr. Priyanka	15 min
Dr. Kaushikee	15 min
Dr. Deepa mah.	15 min
Dr. Rachna	15 min
Dr. Meenakshi	15 min



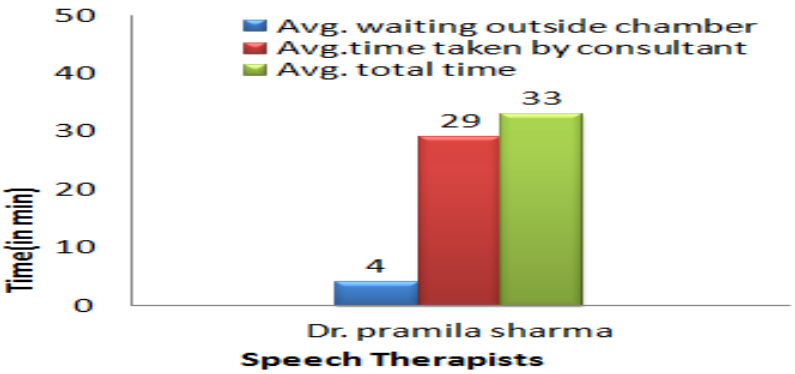
CONSULTANT	SLOT
Dr. Rajiv	10 min
Dr. Sushum	10 min
Dr. Shailesh	10 min
Dr. Prabhat	10 min



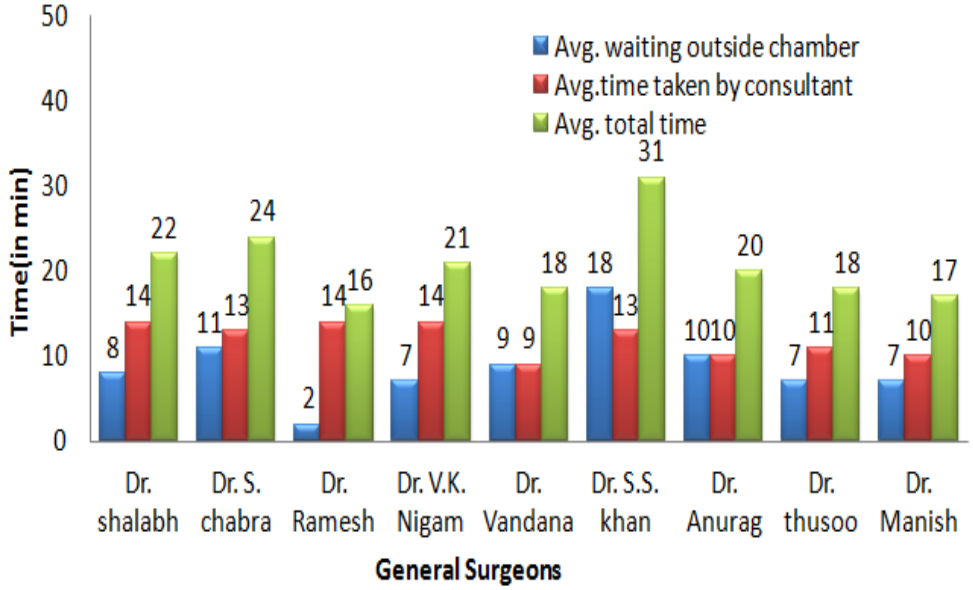
CONSULTANT	SLOT
Dr. Rajiv	10 min
Dr. Sandeep	10 min
Dr. Sushum	10 min
Dr. Shailesh	10 min
Dr. Prabhat	10 min
Dr. J. P. Wali	10 min



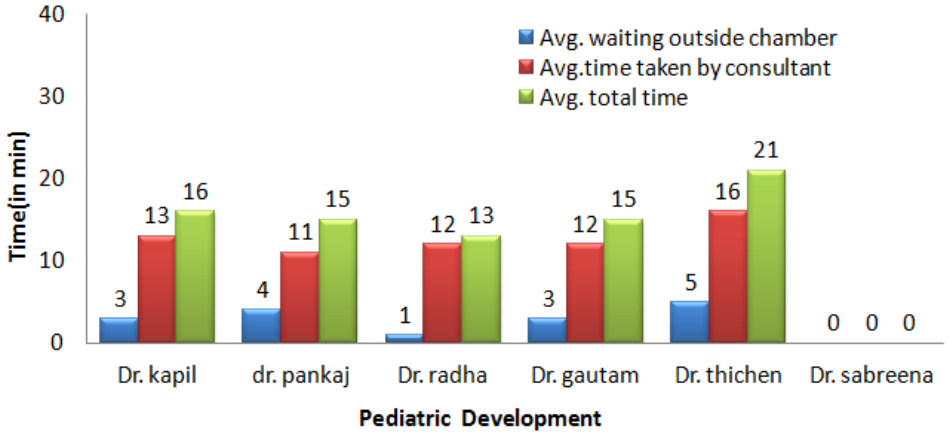
CONSULTANT	SLOT
Dr. Pramila	45 min



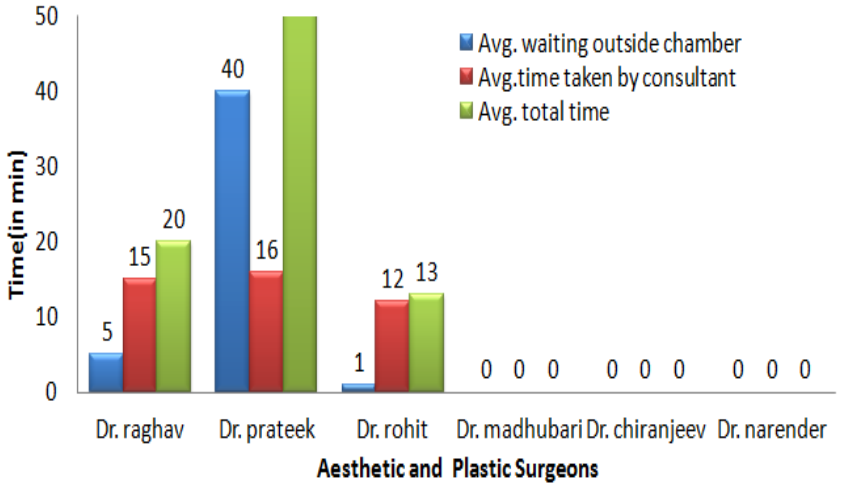
CONSULTANT	SLOT
Dr. Shalabh	20 min
Dr. S. Chabra	20 min
Dr. V.k nigam	20 min
Dr. Ramesh	20 min
Dr. Vandana	20 min
Dr. S.s khan	20 min
Dr. Anurag	20 min
Dr. Thusoo	15 min
Dr. Manish	20 min



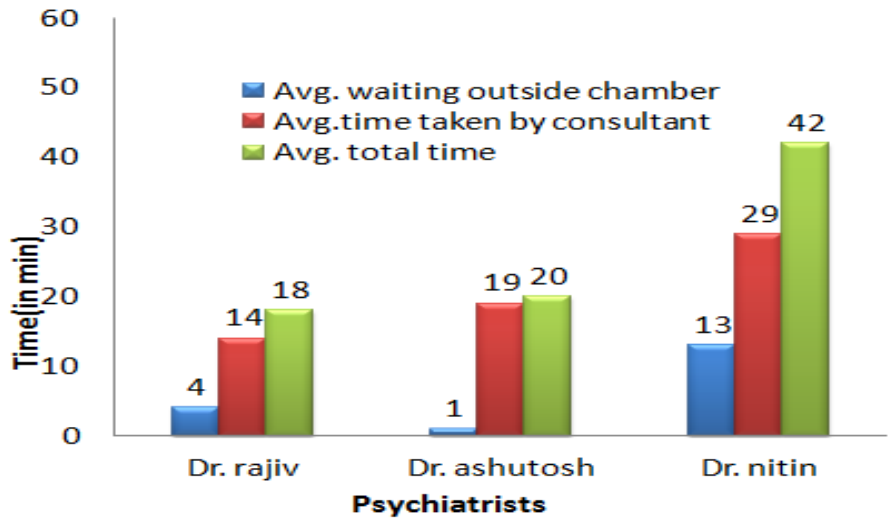
CONSULTANT	SLOT
Dr. Kapil	20 min
Dr. Pakaj	15 min
Dr. Radha	20 min
Dr. Gautam	20 min
Dr. Thichen	20 min
Dr. Sabreena	20 min



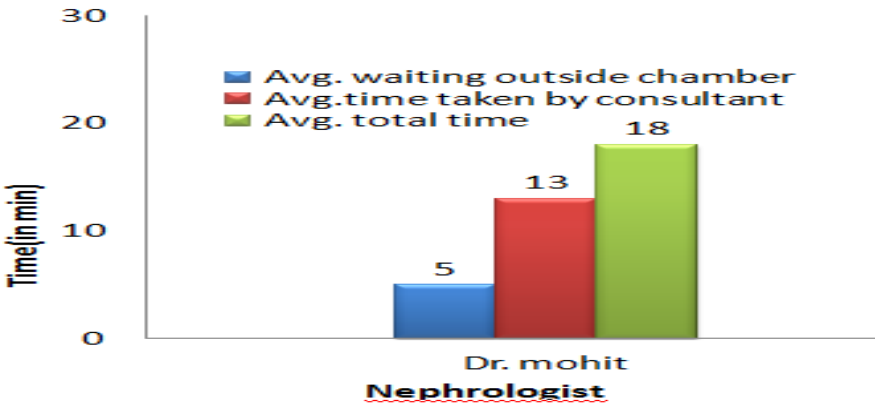
CONSULTANT	SLOT
Dr. Ragav	20 min
Dr. Prateek	15 min
Dr. Rohit	15 min
Dr. Madhubari	10 min
Dr. Chiranjeev	15 min
Dr. Narender	15 min



CONSULTANT	SLOT
Dr. Rajiv	20 min
Dr. Ashutosh	20 min
Dr. Nitin	20 min



CONSULTANT	SLOT
Dr. Mohit	20 min



DISCUSSION:

Factors responsible for long waiting time of patient for consultation are as follows:

- Doctors are not on time. They generally come 10 to 15 mins late, therefore all appointments get delayed and patients did not get sufficient consulting time.

- Existing appointment slots are not according to average time taken by consultant in visiting one OPD patient, due to which patient has to wait.

- Low visibility of nursing station at PHP side due to which patient forgot to give invoice to them

- Whole Staff at nursing stations is lazy they calls the patient's name from inside the room due to which some patients misses their turn and he or she has to wait for a long time to get their consultation.

- Only two out of four counters of billing desk are operational.

- There is lack of trained staff / inexperienced trainees at billing desk which delayed the invoice generation and other operations of billing desk.

- Neither the Patients are aware of the procedure code followed by the hospital as nobody is there to guide them like what to do next nor the staff at the billing desk.

- Lack of proper signage is also responsible for increased waiting time.

CONCLUSION:

From the above graphs, it has been observed that there are consultants whose Average time taken in consultation is more than their existing slot time, due to which waiting has been increased and this need to be corrected by making their slots accordingly (shown in the table).

CONSULTANT	AVG. TIME TAKEN BY CONSULTANT (OBTAINED THROUGH STUDY)	EXISTING SLOT TIME
DIETICIAN 1018		
MS. NITIKA	**24**	**20**
ORTHOPAEDICS 1122		
DR. RAJESH	**13**	**10**
E.N.T. 1125		
DR. ATUL	**15**	**10**
PSYCHIATRY 1128		
DR. NITIN	**29**	**20**
DERMATOLOGY 1120		
DR. ANUJ PAUL	**13**	**10**
DR. RASHMI	**24**	**10**
DIABETES SPECIALIST		
DR. PRABHAT	**12**	**10**

Recommendations:

- Doctor's appointment slot can be rearranged according to average time taken by each consultant in visiting one OPD patient (which is been calculated and shown in the graph).
- Pre-intimation can be given to patient about the waiting time for which he/she is coming for consultation.
- Staff at nursing station should go personally to the patient in waiting area and ask for the consultation when their turn comes, rather than calling their names from inside the nursing station, due to which patient sometimes unable to hear the call and miss his/her turn for consultation and again he/she has to wait for the turn.
- Weighing machine can be changed to reduce the time in weighing, as it takes long time to give the weight of patient.
- Online payment gateway can be made, as it will reduce the time in billing by patient for consultation or for any other diagnostic procedure.
- Films which are there on glasses of nursing station can be removed to increase the visibility of the nursing station, and patient will not face any difficulty in locating the station.
- A board to display Chamber no. and consultant name who is sitting in that, must be displayed at nursing station, to avoid confusion in patients about the chamber no. in which doctor is available.
- Token counter system which is there, if made operational, then it will reduce the inconvenience and will make easy for the patient to wait and he/she will not confirm again and again about his/her turn at nursing station.
- Only 2 Billing counters are operational, due to which there is always a queue at OPD billing counter. So, in order to make this smooth, 4 billing counter which are already there, if made operational then this problem will reduce.

REFERENCES

- ^ Leebov golde group "**Hospital patient satisfaction and the quality patient experience**", at www.quality-patient-experience.com/hospital-patient-satisfaction.html

- ^ Brent C. James, (1989), "**Quality management for health care delivery**" p.17(4) & p.18(6)

- ^ Dr.Vinay vatsayan(june 2010), "**A study of the hospital billing system in tertiary care hospital with special reference to insurance patients**", p.29(1)

- **Patient Waiting Time: It's Impact on Hospital Outpatient Department**
  Dr. Sandesh Kumar Sharma, Research Scholar (Hospital Management),Suresh Gyan Vihar University
  Dr. Sudhinder Singh Chowhan, Research Guide (Hospital Management),Suresh Gyan Vihar University

- **Waiting time studies to improve service efficiency at national hospital of Sri Lanka**

  Mathugama, S.C

- **Improving Turn Around Time (TAT) for Out Patient Department**

  P. D. Hinduja National Hospital & Medical Research Centre, Mumbai

APPENDICIES

Dermatology								
Dr. manmohan								
10-Apr								
S.N.	Patient name	billing time	Nursing station	In time	out time	waiting outside chamber	time taken by consultant	total time
1	sashi	9:13	9:14	9:25	9:30	12 mins	5 mins	17 mins
2	rahul	9:18	9:18	9:31	9:48	13 mins	17 mins	30 mins
3	yuvraj	9:35	9:35	9:48	9:59	13 mins	11 mins	24 mins
4	preetam	9:39	9:39	9:59	10:06	20 mins	7 mins	27 mins
5	rabinder	9:56	9:56	10:09	10:21	13 mins	12 mins	25 mins
6	sanjeev	9:57	9:58	10:21	10:27	24 mins	6 mins	30 mins
7	rajeev	10:21	10:21	10:28	10:34	7 mins	6 mins	13 mins
8	zion	10:17	10:18	10:34	10:49	17 mins	15 mins	32 mins
9	ramesh	10:35	10:35	10:57	11:07	22 mins	10 mins	32 mins
10	sachin	without billing	10:35	11:07	11:14	32 mins	7 mins	39 mins
11	sudarshan	10:49	10:50	11:15	11:25	26 mins	10 mins	36 mins
12	shankar	10:03	10:05	11:25	11:49	82 mins	24 mins	106 mins
13	avnish	11:34	11:34	11:49	12:00	15 mins	11 mins	26 mins
13-Apr-13								
S.N.	Patient name	billing time	Nursing station	In time	out time	waiting outside chamber	time taken by consultant	total time
1	kunal	9:22	9:22	9:23	9:32	1 min	9 mins	10 mins
2	rachita	9:45	9:45	9:46	9:51	1 min	5 mins	6 mins
3	asha	9:50	9:51	9:52	10:07	2 mins	15 mins	17 mins
4	sandeep	9:55	9:56	10:07	10:15	12 mins	8 mins	20 mins
5	manu	10:08	10:08	10:15	10:20	7 mins	5 mins	12 mins
6	sidharth	10:37	10:37	10:38	10:47	1 min	9 mins	10 mins
7	raibat	10:59	10:59	11:00	11:09	1 min	9 mins	10 mins
8	mahva	11:02	11:03	11:03	11:10	1 min	7 mins	8 mins
9	t.k. sarawath	11:08	11:09	11:10	11:18	2 mins	8 mins	10 mins
10	auyuk	12:05	12:06	12:06	12:12	1 min	6 mins	7 mins
11	shruti	12:07	12:07	12:12	12:20	5 mins	8 mins	13 mins
12	sonali	12:24	12:24	12:25	12:30	1 min	5 mins	6 mins
13	pooja	12:30	12:31	12:31	12:39	1 min	8 mins	9 mins

14	surya	12:31	12:32	12:39	12:45	8 mins	6 mins	14 mins
15	bajeshree	12:33	12:33	12:45	12:54	12 mins	9 mins	21 mins
16	shobit	12:45	12:46	12:54	1:00	9 mins	6 mins	15 mins
17	vitay	1:13	1:14	1:15	1:21	2 mins	6 mins	8 mins
18	saniya	1:15	1:15	1:22	1:30	7 mins	8 mins	15 mins
19	ashok	1:20	1:21	1:30	1:35	10 mins	5 mins	15 mins
19-Apr-13								
S.N.	Patient name	billing time	Nursing station	In time	out time	waiting outside chamber	time taken by consultant	total time
1	kanika	7:47	7:47	7:48	8:00	1 min	12 mins	13 mins
2	kaushal	8:21	8:21	8:22	8:35	1 min	13 mins	14 mins
3	prasant	8:47	8:47	8:48	8:59	1 min	11 mins	12 mins
4	mausami	9:33	9:33	9:34	9:46	1 min	12 mins	13 mins
5	swati	10:01	10:01	10:02	10:19	1 min	17 mins	18 mins
6	riya	10:08	10:08	10:20	10:33	12 mins	13 mins	25 mins
7	mrinal	10:56	10:56	10:59	11:11	3 mins	12 mins	15 mins
22-Apr-13								
S.N.	Patient name	billing time	Nursing station	In time	out time	waiting outside chamber	time taken by consultant	total time
1	ritisha	9:07	9:07	9:10	9:22	3 mins	12 mins	15 mins
2	shreyansh	9:28	9:28	9:29	9:38	1 min	9 mins	10 mins
3	puneet	10:11	10:12	10:25	10:37	14 mins	12 mins	26 mins
4	meera	10:27	10:27	10:38	10:46	11 mins	8 mins	19 mins
5	nitika	10:35	10:35	10:48	11:03	13 mins	15 mins	28 mins
6	kuldeep	11:24	11:24	11:25	11:32	1 min	7 mins	8 mins
7	pranjal	11:28	11:28	11:40	11:51	12 mins	11 mins	23 mins
8	rajvinder	11:44	11:44	11:51	12:09	7 mins	18 mins	25 mins
9	jamalur	12:03	12:03	12:09	12:16	6 mins	7 mins	13 mins

Average		
waiting outside chamber	time taken by consultant	total time
10 mins	**10 mins**	**20 mins**

Nephrologist								
Dr. Mohit								
10-Apr-13								
S.N.	Patient name	billing time	Nursing station	In time	out time	waiting outside chamber	time taken by consultant	total time
1	madhu	5:33	5:34	5:40	5:53	0:07	0:13	0:20
2	rahul	6:01	6:01	6:02	6:14	0:01	0:12	0:13
3	pradyut	6:03	6:03	6:14	6:26	0:11	0:12	0:23

12-Apr-13								
S.N.	Patient name	billing time	Nursing station	In time	out time	waiting outside chamber	time taken by consultant	total time
1	S.S Bhugra	10:56	10:57	10:59	11:08	0:03	0:09	0:12
2	Satrohan	12:41	12:41	12:51	13:01	0:10	0:10	0:20

13-Apr-13								
S.N.	Patient name	billing time	Nursing station	In time	out time	waiting outside chamber	time taken by consultant	total time
1	vijay	6:10	6:11	6:12	6:27	0:02	0:15	0:17
2	kartikeya	6:12	6:12	6:27	6:40	0:15	0:13	0:28
3	virender	7:12	7:13	7:13	7:26	0:01	0:13	0:14

15-Apr-13								
S.N.	Patient name	billing time	Nursing station	In time	out time	waiting outside chamber	time taken by consultant	total time
1	radhey	5:40	5:40	5:50	5:58	0:10	0:08	0:18
2	madhu	6:09	6:09	6:10	6:19	0:01	0:09	0:10
3	nirmal	6:26	6:26	6:27	6:39	0:01	0:12	0:13
4	sisilia	6:58	6:59	7:00	7:13	0:02	0:13	0:15

20-Apr-13

S.N.	Patient name	billing time	Nursing station	In time	out time	waiting outside chamber	time taken by consultant	total time
1	ramesh	5:43	5:44	5:45	5:58	0:02	0:13	0:15
2	kamlesh	6:35	6:35	6:39	6:53	0:04	0:14	0:18
3	Indu	6:46	6:46	6:53	7:06	0:07	0:13	0:20

Average		
waiting outside chamber	time taken by consultant	total time
5	**12**	**17**

neuro surgery								
Dr. Deepak kumar								
18-Apr-13								
S.N.	Patient name	billing time	Nursing station	In time	out time	waiting outside chamber	time taken by consultant	total time
1	devi	10:08	10:08	10:12	10:24	4 mins	12 mins	16 mins
2	apem	10:11	10:11	10:25	10:38	14 mins	13 mins	27 mins

average		
waiting outside chamber	time taken by consultant	total time
9 mins	**13 mins**	**22 mins**

OBS and Gynaecologist								
Dr. Nirmala								
11-Apr-13								
S.N.	Patient name	billing time	Nursing station	In time	out time	waiting outside chamber	time taken by consultant	total time
1	sushma	12:30	12:30	12:31	12:54	1 min	23 mins	24 mins
2	kavita	12:56	12:56	12:57	6:10	1 min	13 mins	14 mins

18-Apr-13								
S.N.	Patient name	billing time	Nursing station	In time	out time	waiting outside chamber	time taken by consultant	total time
1	shabnam	12:15	12:15	12:16	12:40	1 min	24 mins	25 mins
2	amrita	1:30	1:30	1:31	1:43	1 min	12 mins	13 mins

average		
waiting outside chamber	time taken by consultant	total time
1 min	**18 mins**	**19 mins**

Orthopedics and Joint replacement								
Dr. Ritabh (9 to 11)								
12-Apr								
S.N.	Patient name	billing time	Nursing station	In time	out time	waiting outside chamber	time taken by consultant	total time
1	savita	8:08	8:08	8:59	9:06	0:51	0:07	0:58
2	neeru	8:55	8:55	9:06	9:13	0:11	0:07	0:18
3	kancha	9:05	9:05	9:14	9:27	0:09	0:13	0:22
4	kamlesh	9:05	9:06	9:27	9:36	0:22	0:09	0:31
5	manoj	9:35	9:35	9:36	9:44	0:01	0:08	0:09
6	girish	9:45	9:45	9:46	10:06	0:01	0:20	0:21
7	bala	9:50	9:50	10:06	10:19	0:16	0:13	0:29
8	prem	9:50	9:51	10:19	10:32	0:29	0:13	0:42
9	neha	9:50	9:51	10:33	10:39	0:43	0:06	0:49
10	sukriti	9:51	9:51	10:39	10:46	0:48	0:07	0:55
11	ram	10:14	10:14	10:47	10:55	0:33	0:08	0:41
12	natatha	10:50	10:50	10:55	11:07	0:05	0:12	0:17
13	arvind	10:52	10:52	11:07	11:29	0:15	0:22	0:37
14	mala	11:55	11:55	11:56	12:03	0:01	0:07	0:08

average		
waiting outside chamber	time taken by consultant	total time
20 mins	**11 mins**	**31 mins**

Paediatric								
dr. thichen lama								
18-Apr-13								
S.N.	Patient name	billing time	Nursing station	In time	out time	waiting outside chamber	time taken by consultant	total time
1	devansh	5:33	5:33	5:34	5:47	1 min	13 mins	14 mins
2	reyansh	5:47	5:47	5:48	6:03	1 min	15 mins	16 mins
3	devansh	6:00	6:00	6:03	6:22	3 mins	19 mins	22 mins
17-Apr-13								
S.N.	Patient name	billing time	Nursing station	In time	out time	waiting outside chamber	time taken by consultant	total time
1	litnay	4:50	4:50	5:05	5:18	15 mins	13 mins	28 mins
2	shweeta	5:28	5:28	5:31	5:50	3 mins	19 mins	22 mins
						average		
						waiting outside chamber	time taken by consultant	total time
						5 mins	**16 mins**	**21 mins**

PAEDIATRIC								
Dr. Gautam								
15-Apr-13								
S.N.	Patient name	billing time	Nursing station	In time	out time	waiting outside chamber	time taken by consultant	total time
1	Kiran	2:34	2:36	2:37	2:48	0:03	0:11	0:14

29-Apr-13								
S.N.	Patient name	billing time	Nursing station	In time	out time	waiting outside chamber	time taken by consultant	total time
1	kiran	2:24	2:25	2:26	2:39	0:02	0:13	0:15
						average		
						waiting outside chamber	time taken by consultant	total time
						3	**12**	**15**

Psychiatry								
Dr. Ashutosh								
12-Apr-13								
S.N.	Patient name	billing time	Nursing station	In time	out time	waiting outside chamber	time taken by consultant	total time
1	nitesh	5:20	5:20	5:22	5:41	2 mins	19 mins	21 mins
13-Apr-13								
S.N.	Patient name	billing time	Nursing station	In time	out time	waiting outside chamber	time taken by consultant	total time
1	ss yadav	1:25	1:26	1:26	1:50	1 min	24 mins	25 mins
15-Apr-13								
S.N.	Patient name	billing time	Nursing station	In time	out time	waiting outside chamber	time taken by consultant	total time
1	saroj	4:35	4:35	4:35	4:50	0 min	15 mins	15 mins
						Average		
						waiting outside chamber	time taken by consultant	total time
						1 min	19 mins	20 mins

Psychiatry								
Dr. nitin								
18-Apr-13								
S.N.	Patient name	billing time	Nursing station	In time	out time	waiting outside chamber	time taken by consultant	total time
1	khashif	3:29	3:29	4:03	4:14	0:34	0:11	0:45
2	shashank	4:30	4:30	4:32	4:46	0:02	0:14	0:16
3	ashu	7:01	7:01	7:08	7:23	0:07	0:15	0:22
4	sarika	7:12	7:12	7:38	8:02	0:26	0:24	0:50
19-Apr-13								
S.N.	Patient name	billing time	Nursing station	In time	out time	waiting outside chamber	time taken by consultant	total time
1	saraswati	8:03	8:03	8:08	8:23	0:05	0:15	0:20
2	krishna	9:04	9:04	9:09	9:33	0:05	0:24	0:29
						Average		
						waiting outside chamber	time taken by consultant	total time
						13 mins	17 mins	30 mins