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

CHAMBER UTILIZATION AND ANALYSIS OF PHP PROCESS

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
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CERTIFICATE

This is to certify that, Ankur Gupta 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. During this period he did summer project on "OPD Chamber Utilization" and "Analysis of PHP Process" from April 8th to June 7th 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 endeavors.

Rahul Ghai
Associate Professor
Faculty and Mentor
IIHMR, Jaipur

Dr. Ashok Kaushik
Dean, Academic and student affairs,
IIHMR, Jaipur

MAX HEALTHCARE
Caring for you... for life

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To Whom It May Concern

This is to certify that **Mr. Ankur Gupta,** has successfully completed his Training with Max Hospital Gurgaon from **April 8th 2013 to June 7th , 2013.**

He gained experience in the Department of Facilities Management. His main area of focus was "Chamber Utilization and Analysis of PHP Process"

He exhibited good communication skills, he had good interpersonal relationships with his seniors and colleagues.

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

We wish him 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 **Rahul Ghai** 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.

Ankur Gupta

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ABBREVIATONS:

- 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.

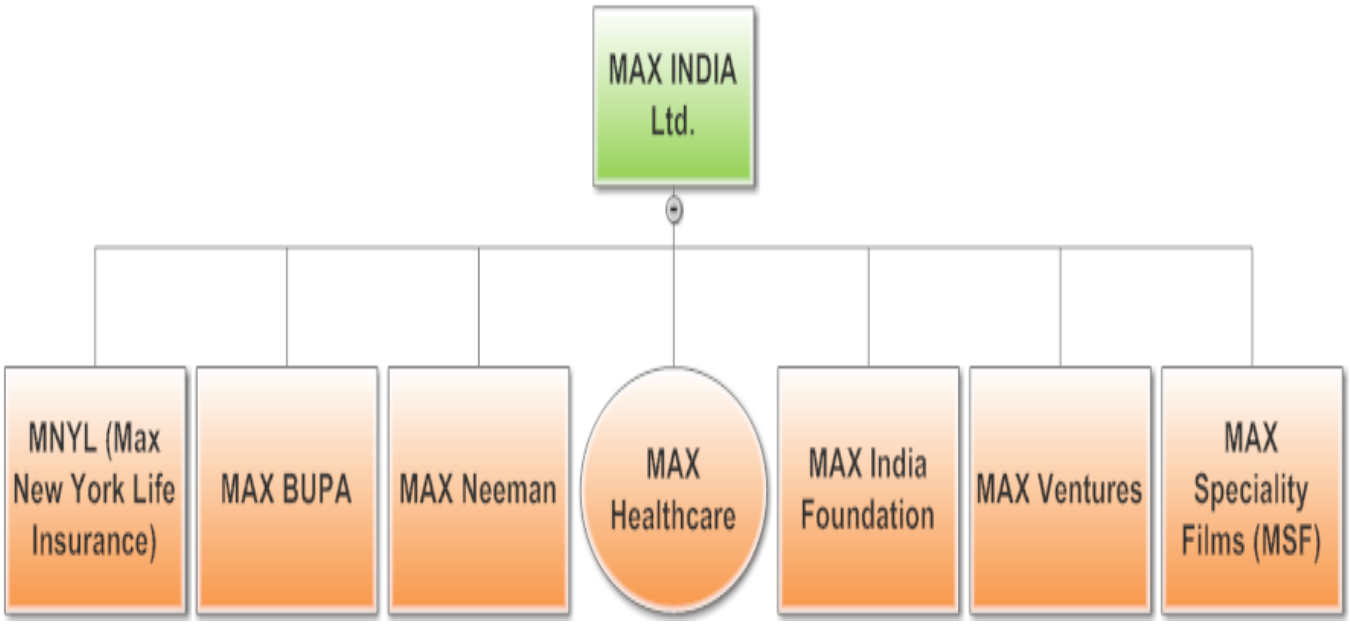
We Enhance life' through our Health Insurance company, Max Bupa Health Insurance, a Joint Venture between Max India and Bupa Finance Plc, UK

We '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

Intensive Care Services:

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 to provide 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 Med centre, Panchsheel Park first Med centre 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.

OT 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 in charge 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.

CHAMBER UTILIZATION:

ISSUE – Improper Utilization of OPD chambers.

PROBLEM STATEMENT – How to rearrange the Doctor Appointment slots so that Chamber is utilized properly?

RATIONALE OF THE STUDY:

The OPD is the first impression of any Hospital; as the window shopping is the OPD where always the high flow of patients is there as compared to IPD. That is why, it should be well managed and process should smoothly go in order to provide patient satisfaction. Nowadays patients are very smart, that patient before coming for any surgery, they judge the quality of healthcare they are providing through OPD services. Quality of OPD services influence directly the number of IPD admissions.

So, in order to increase the patient satisfaction and to improve the quality of services in OPD, we need to organize the doctor's appointment slots properly, as it is a part of patient satisfaction as well as doctor satisfaction. So, patient will carry a very good impression of the hospital and doctors will also be very much satisfied.

REVIEW OF LITERATURE:

1. Title : Outpatient Services Improvement (September 2010)

By NHS trust royal national Orthopaedic hospital

The purpose of this report is to give an update on the service improvement project within the outpatient department. A significant number of service improvements have been identified which would improve the flow through the outpatient department and help resolve some of the demand versus capacity issues. There are also a number of processes which would benefit from improvements and it is essential that these are completed prior to the development and move to a new outpatient department. There is an ideal opportunity to pilot some of the initiatives with the additional facilities coming on board via the freeing up of the limb fitting accommodation

2. Title : Outpatient improvement and innovation strategy
   Progress report (June 2008)
   Published by the Victorian Government Department of Human Services, Melbourne, Victoria
   This document may also be downloaded from the web site at:
   www.health.vic.gov.au/outpatients

It emphasizes on improving the patient experience program, Communication enhancement, Amenities upgrade, Signage and way finding, Supporting innovation, good practice and quality, Capability Analysis, Health services communication forum, improving the outpatient journey, Improving the outpatient department interface with other parts of the health system, Care pathways, Promoting new service models, Implementing key enablers to reform, Outpatient patient-level data collection pilot project, Victorian ambulatory classification and funding system (VACS) review, Supporting information and communication technology, Developing policies and a strategic directions.

GENERAL OBJECTIVE:

- To allot the doctor's appointment slots efficiently on basis of available free slots and patient's foot fall to which doctor is high.

SPECIFIC OBJECTIVES:

- To arrange the slots in such a way that always at peak hours, one consultation in each specialization is available for the patients.
- To retain the consultant for which patient footfall is high as compare to other consultants in same specialization and provide him/her the extra perks.
- To measure the average visitors per hour for each consultant.
- Recommend the possible suggestions.

METHODOLOGY:

STUDY AREA: Max Hospital, Gurgaon

STUDY DESIGN: Cross-sectional

STUDY POPULATION: OPD patients and Consultants

DATA COLLECTION TECHNIQUES: Observational and from HIS (hospital information system)

STUDY FINDINGS:

Location of Chambers:

Ground Floor Right Side OPD Chambers	Specialization
1119	Neurology, podiatry
1120	Dermatology
1121	Develop. Pediatrics & Aesthetics
1122	Orthopedic
1123	Urology & Rheumatology
1125	E.N.T.
1128	Psychiatry
1129	Clinical Psychology
1130	OBS n GYN
1131	Pediatrics
1133	Dental 1
1134	Dental 2

Ground Floor PHP Side OPD Chambers	Specialization
1003	OBS n GYN
1004	OBS n GYN
1005	Audiology
1006	Internal medicine-1
1009	Internal medicine-2
1010	Cardiology
1011	General surgery
1018	Dietician

First Floor OPD Chambers	Specialization
No. not Mentioned	Nephrology
Second Floor OPD chambers	**Specialization**
3222	Gastroenterology
3223	OBS n GYN
No. not Mentioned	Pulmonology
Third floor OPD Chambers	**Specialization**
3303	Endocrinology
3304	Diabetes & Speech therapy
3306	Ophthalmology
No. not Mentioned	Retinal Specialist
IVF	OPD-1
	OPD-2

- Monday to Saturday – OPD Timings- 8am to 8pm

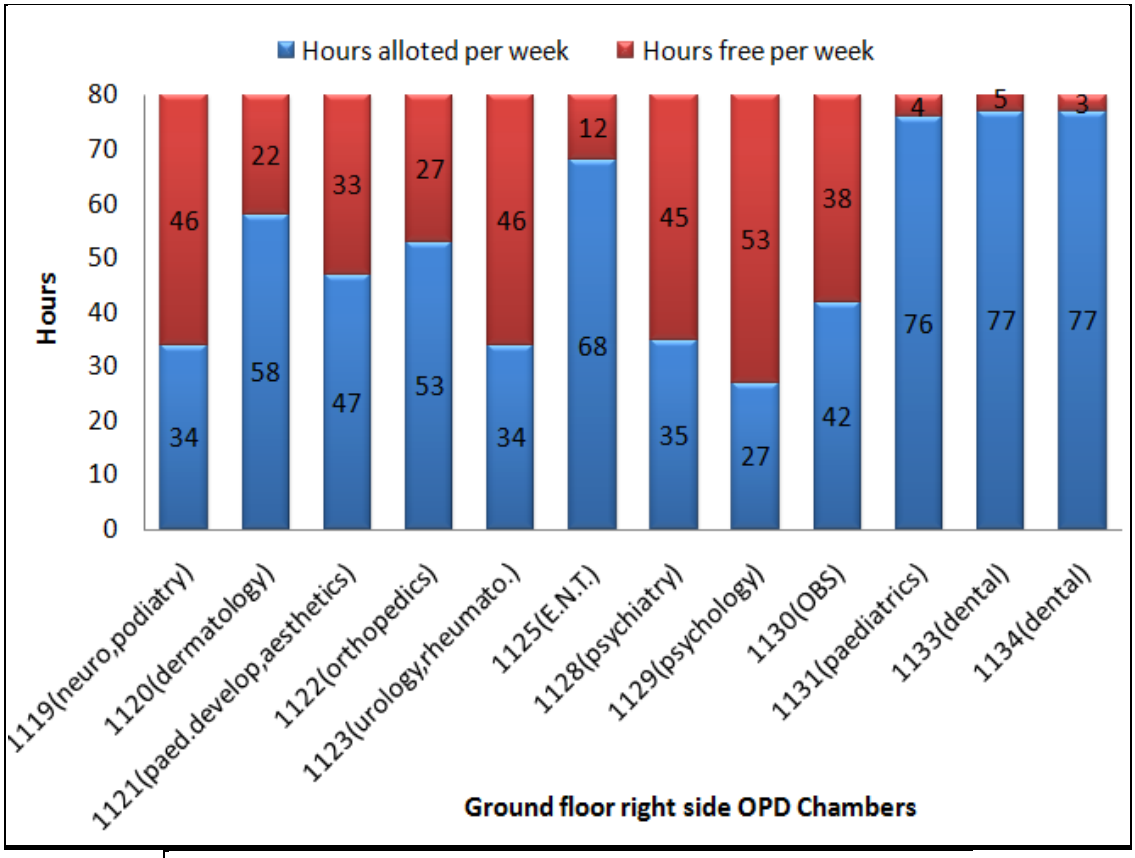
  Hours = 12*6 = 72 hrs

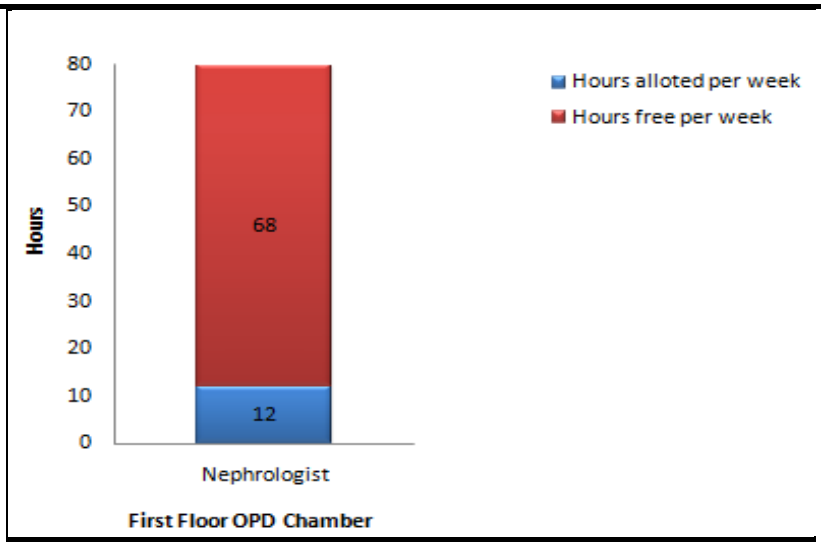
- Sunday – OPD Timings- 8am to 4pm

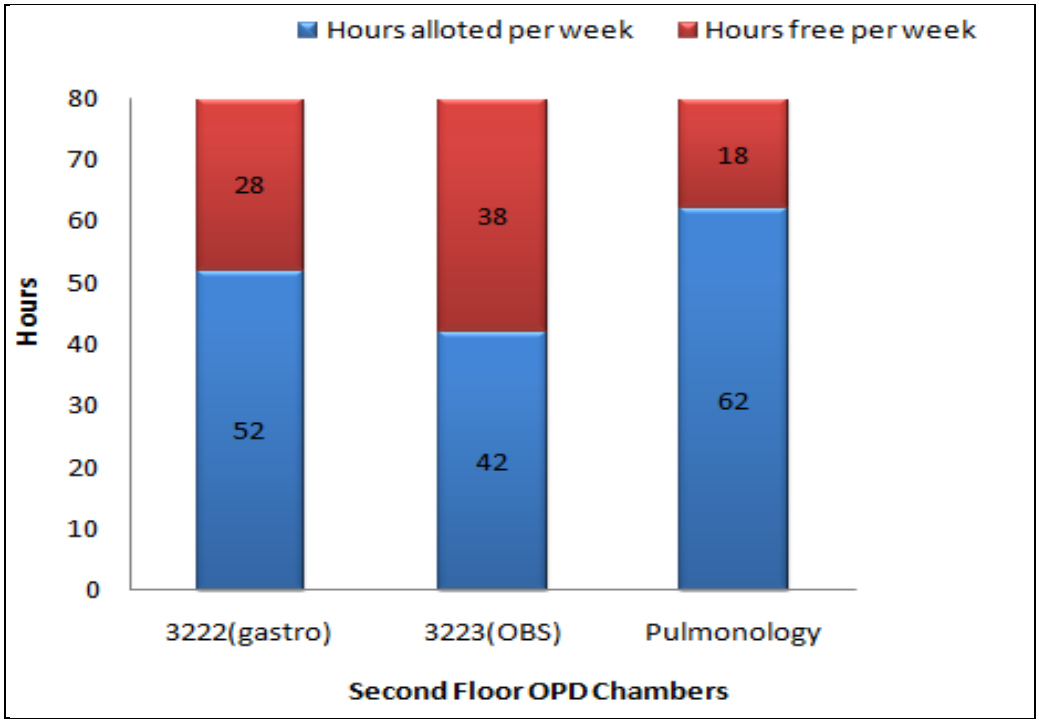
  Hours = 8*1 = 8 hrs

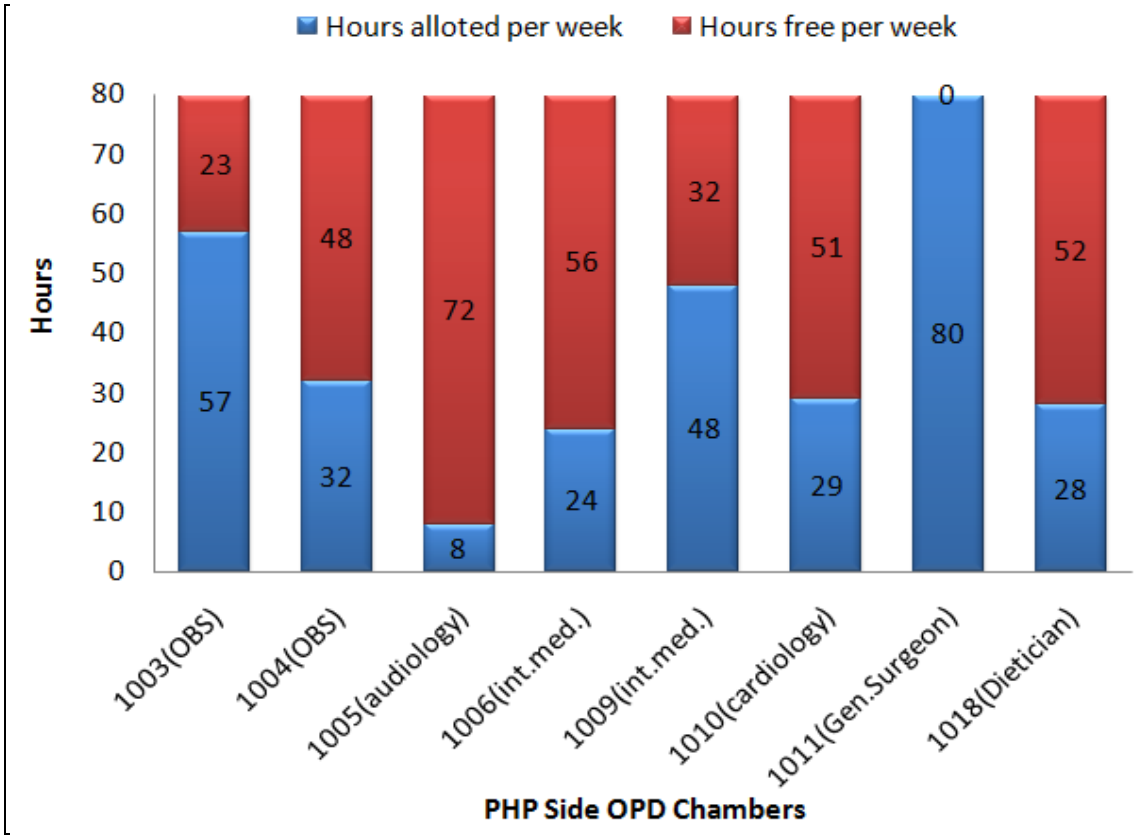
✓ **Total OPD hours per week = 72+8 = 80 hrs**

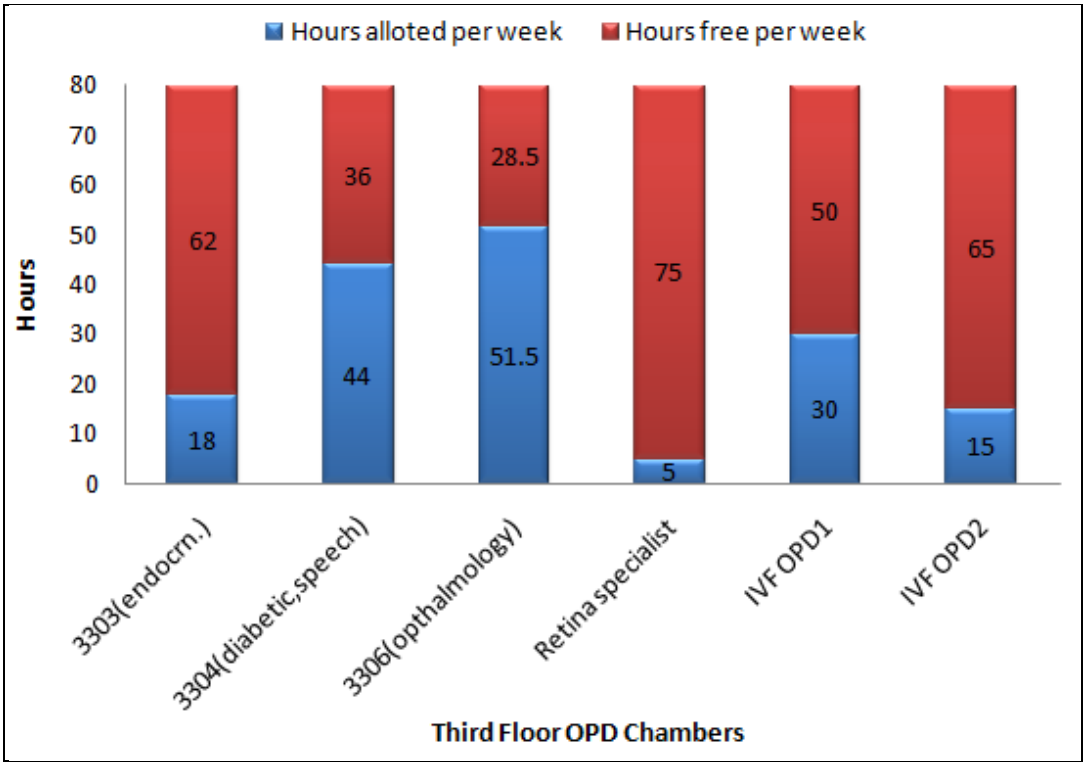
GRAPHS:






Hours alloted per week
Hours free per week
Hours
80
70
60
50
40
30
20
10
0
28
38
18
52
42
62
3222(gastro)
3223(OBS)
Pulmonology
Second Floor OPD Chambers


Hours alloted per week
Hours free per week
Hours
80
70
60
50
40
30
20
10
0
23
48
72
56
32
51
0
52
57
32
8
24
48
29
80
28
1003(OBS)
1004(OBS)
1005(audiology)
1006(int.med.)
1009(int.med.)
1010(cardiology)
1011(Gen.Surgeon)
1018(Dietician)
PHP Side OPD Chambers



CONCLUSION:

- Among ground floor right side OPD chambers, number 1129 (Clinical Psychology) has maximum hours free per week, i.e. 53 hrs in a week, that implies that there is more no. of options to arrange the slots for clinical psychologists.
- We can also increase the slots of Psychologists according to flow of patient to them at peak hours.
- Additional Psychologist can be easily appointed in the hospital or any new consultant can utilize this chamber.
- Chamber 1119, 1123, 1128, 1130 also needs attention in arranging their slots, has there are more no. of hours are free per week, we have the option to allot the extra slots to consultant.
- Among the PHP side OPD chambers, there are 72 hrs free per week in 1005 (audiology) chamber and these extra slots can be allotted to some other consultant.
- In OBS n GYN, 4 chambers are under utilization but 148 hrs among 4 chambers are free per week, which implies that new slots can be made in order to adjust the OBS n GYN in 3 chambers.
- Chambers like nephrology, cardiology, internal medicine, endocrinology need to rearrange has there are more no. of hours free per week or else we can appoint a new consultant in these specialization.

Average visitors per 100 hrs:

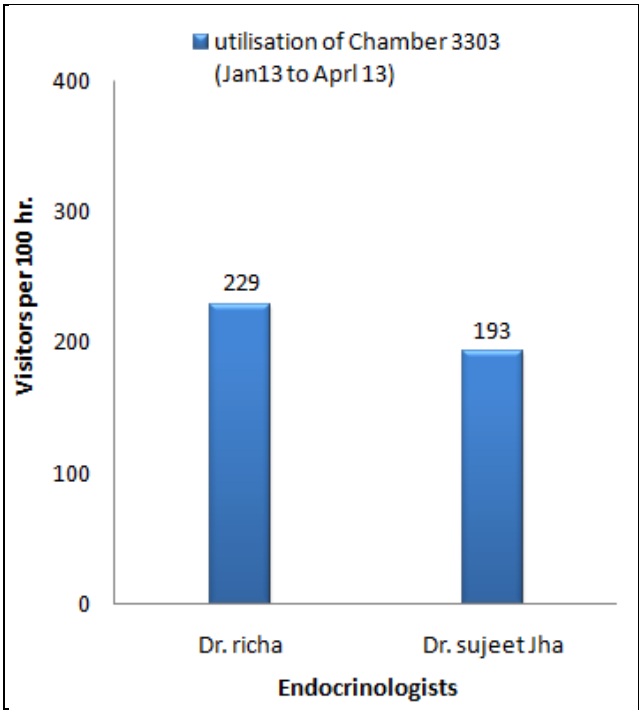
In each specialization, Consultant total appointment time per week is not same. So, in order to see the patient footfall among the consultant's, no. of visitors are divided by their no. of hours of OPD in a month to calculate the no. of visitors per hour (in other words, to make the denominator same).

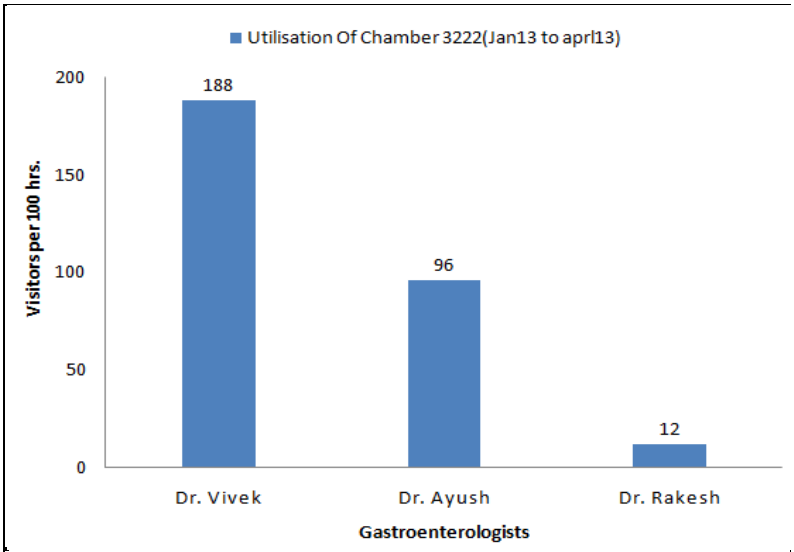
Afterwards, **No. of visitor per hour** of each consultant is calculated and it is observed **per 100 hrs** to make the results easy to understand.

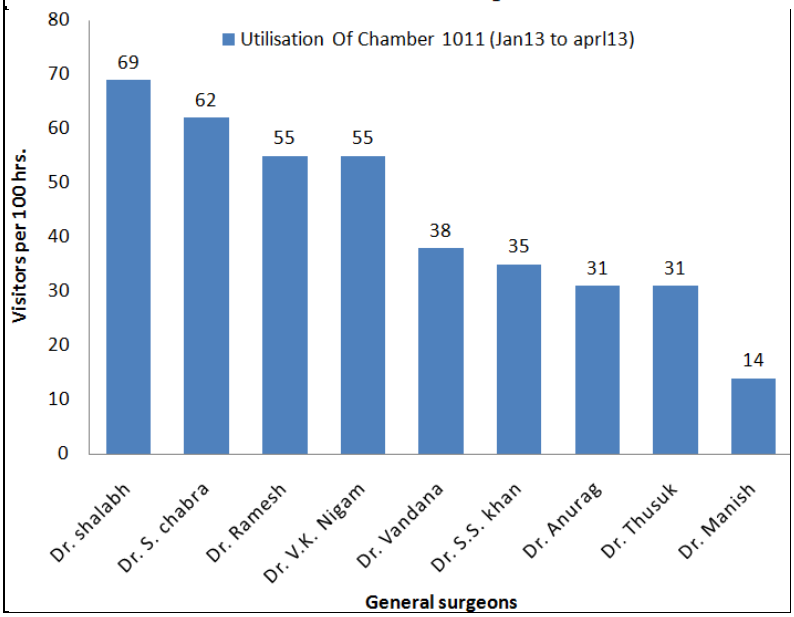
It is calculated for the month - **January 13 to April 13** and **average visitors per 100 hrs** of 4 months is obtained and graph is plotted which are shown below:

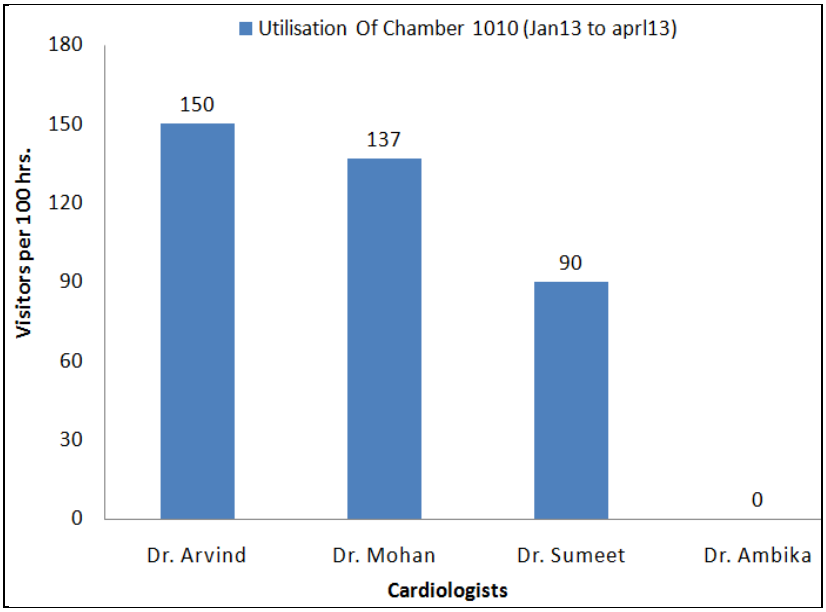
Example: calculation of average visitors per 100 hour

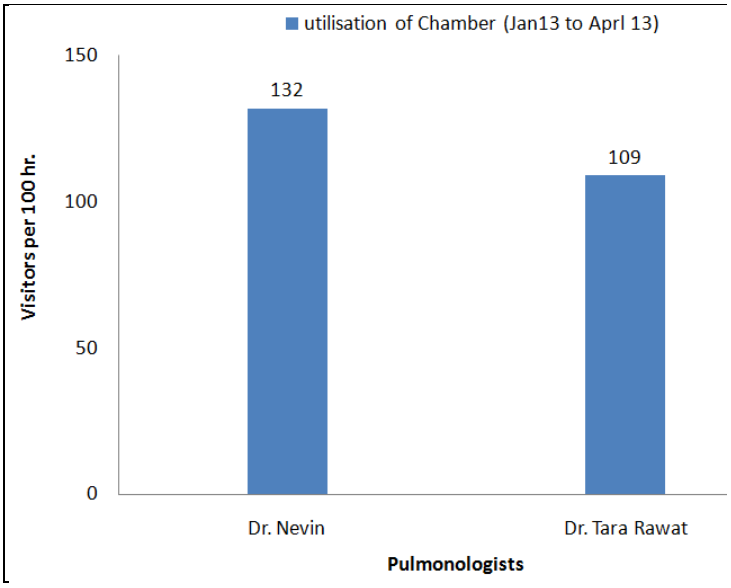
endocrinology 3303						
month	dr. richa			dr. sujeet		
	visitors	hours	V/H	visitors	hours	V/H
jan	49	26	1.88	84	56	1.50
feb	53	24	2.21	97	48	2.02
march	64	26	2.46	93	52	1.79
april	68	26	2.62	128	52	2.46
total	234	102	2.29	402	208	1.93
visitors per 100 hrs.			229			193

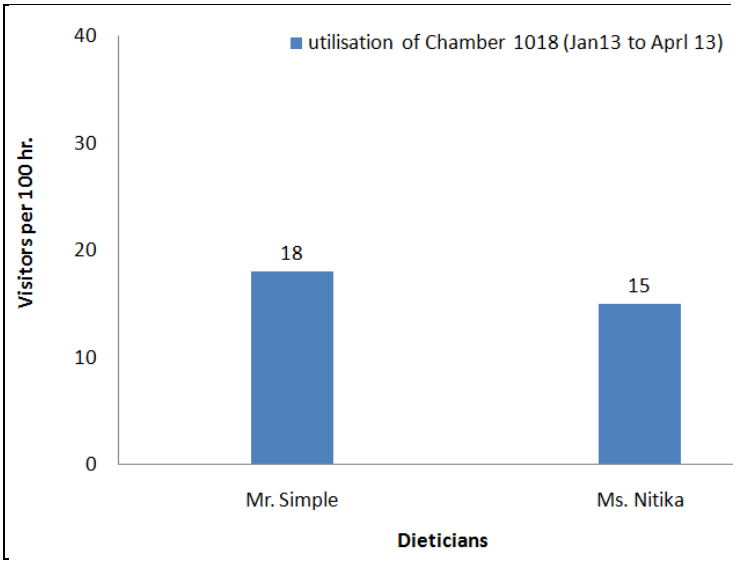


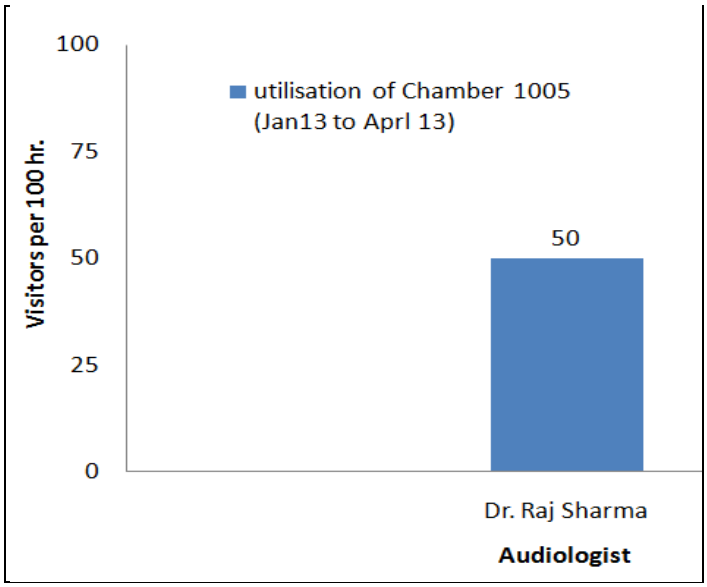

Utilisation Of Chamber 3222(Jan13 to aprl13)
Visitors per 100 hrs.
200
150
100
50
0
188
96
12
Dr. Vivek
Dr. Ayush
Dr. Rakesh
Gastroenterologists

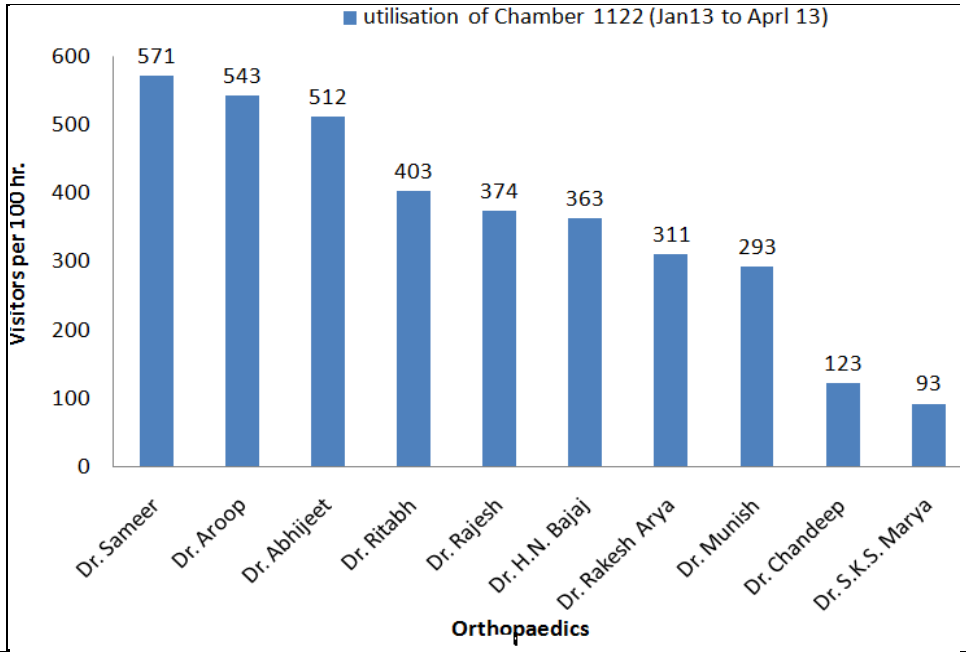

Utilisation Of Chamber 1011 (Jan13 to aprl13)
Visitors per 100 hrs.
80
70
60
50
40
30
20
10
0
69
62
55
55
38
35
31
31
14
Dr. shalabh
Dr. S. chabra
Dr. Ramesh
Dr. V.K. Nigam
Dr. Vandana
Dr. S.S. khan
Dr. Anurag
Dr. Thusuk
Dr. Manish
General surgeons

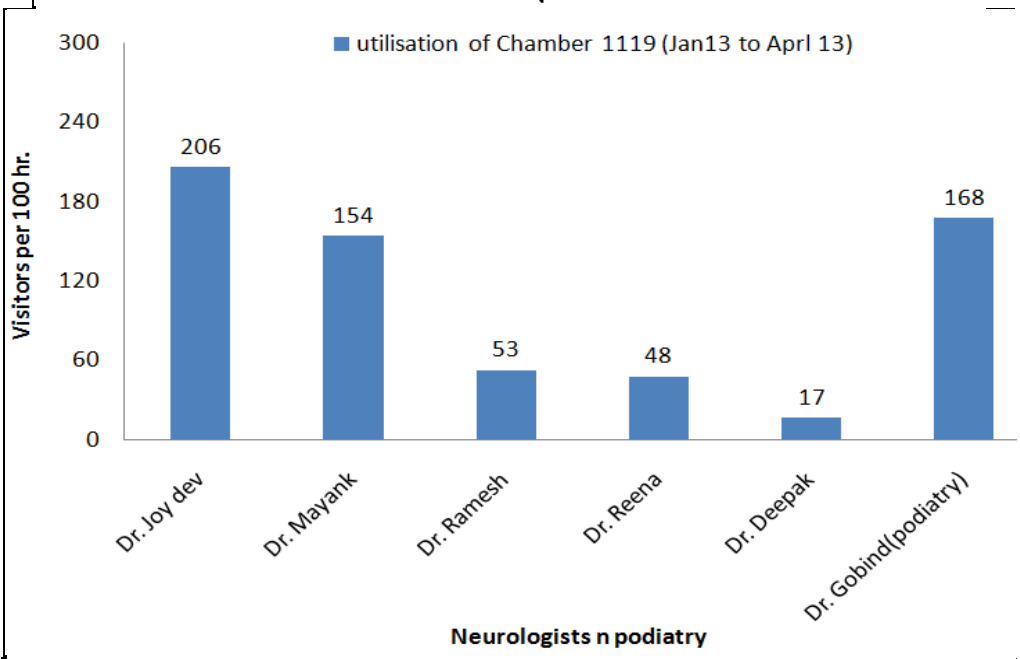

Utilisation Of Chamber 1010 (Jan13 to aprl13)
Visitors per 100 hrs.
180
150
120
90
60
30
0
150
137
90
0
Dr. Arvind
Dr. Mohan
Dr. Sumeet
Dr. Ambika
Cardiologists

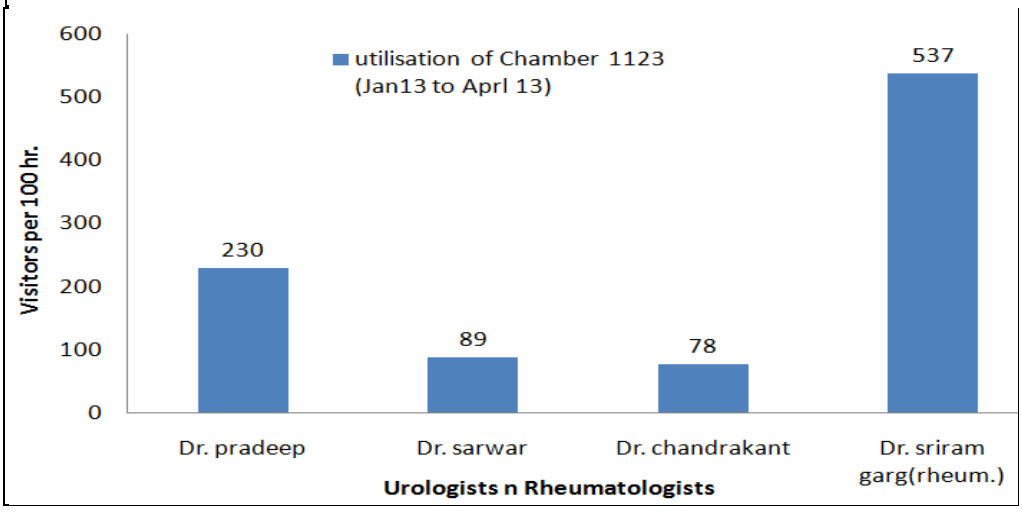

utilisation of Chamber (Jan13 to Aprl 13)
150
100
50
0
Visitors per 100 hr.
132
109
Dr. Nevin
Dr. Tara Rawat
Pulmonologists

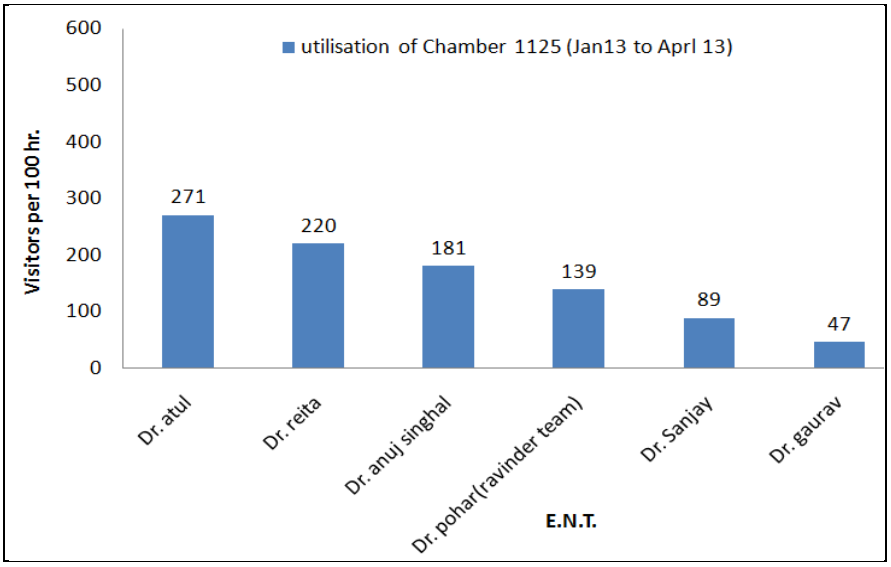

utilisation of Chamber 1018 (Jan13 to Aprl 13)
40
30
20
10
0
Visitors per 100 hr.
18
15
Mr. Simple
Ms. Nitika
Dieticians

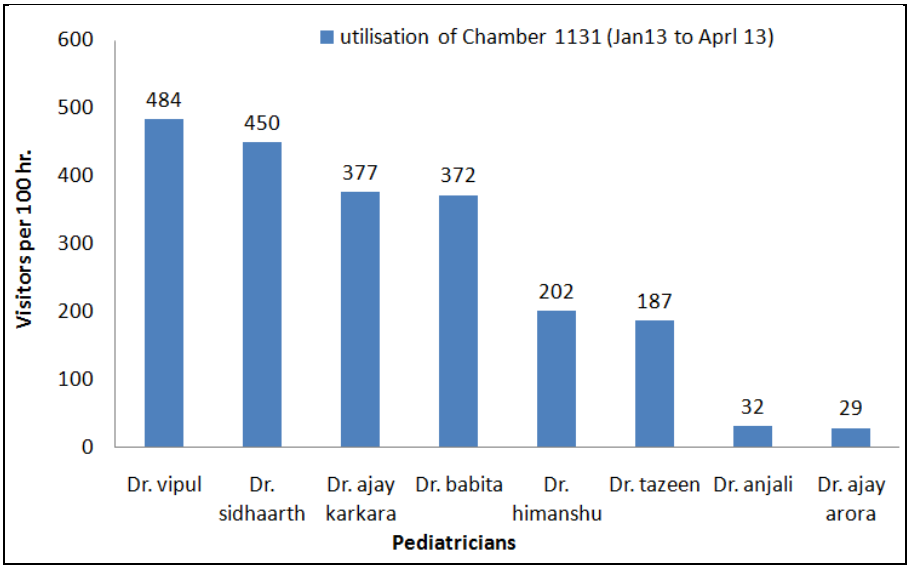

100
75
50
25
0
Visitors per 100 hr.
utilisation of Chamber 1005
(Jan13 to Aprl 13)
50
Dr. Raj Sharma
Audiologist

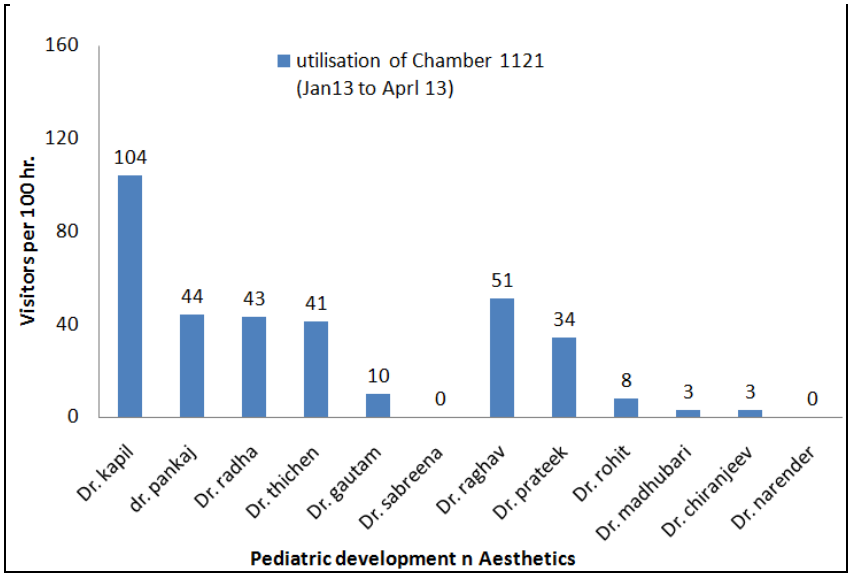

utilisation of Chamber 1122 (Jan13 to Aprl 13)
Visitors per 100 hr.
600
500
400
300
200
100
0
571
543
512
403
374
363
311
293
123
93
Dr. Sameer
Dr. Aroop
Dr. Abhijeet
Dr. Ritabh
Dr. Rajesh
Dr. H.N. Bajaj
Dr. Rakesh Arya
Dr. Munish
Dr. Chandeep
Dr. S.K.S. Marya
Orthopaedics

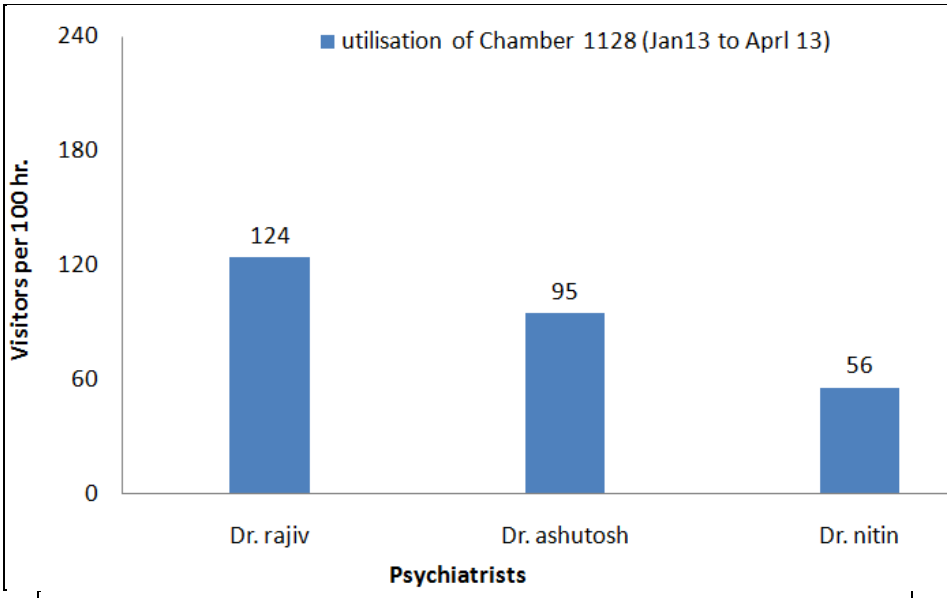

utilisation of Chamber 1119 (Jan13 to Aprl 13)
Visitors per 100 hr.
300
240
180
120
60
0
206
154
53
48
17
168
Dr. Joy dev
Dr. Mayank
Dr. Ramesh
Dr. Reena
Dr. Deepak
Dr. Gobind(podiatry)
Neurologists n podiatry

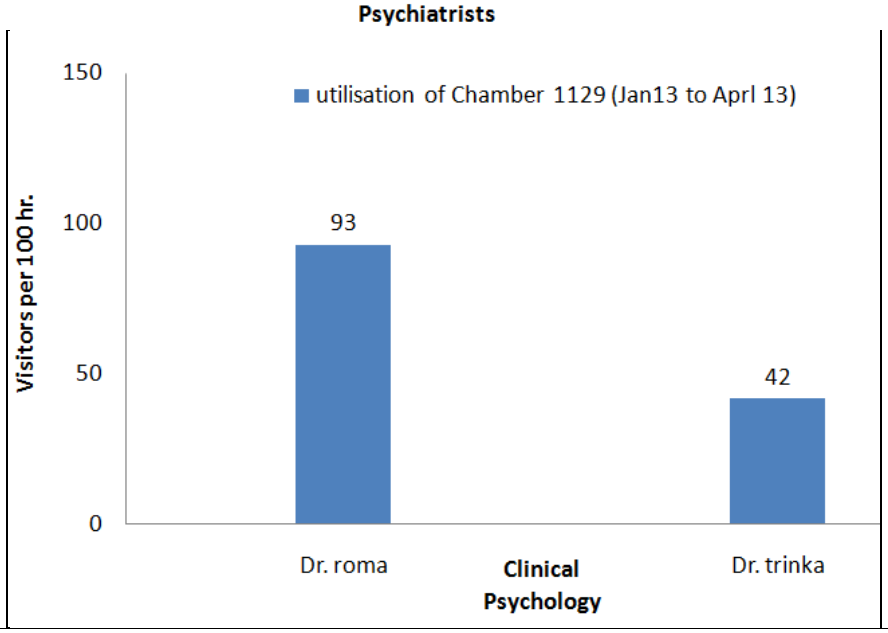

utilisation of Chamber 1123 (Jan13 to Aprl 13)
Visitors per 100 hr.
600
500
400
300
200
100
0
230
89
78
537
Dr. pradeep
Dr. sarwar
Dr. chandrakant
Dr. sriram garg(rheum.)
Urologists n Rheumatologists

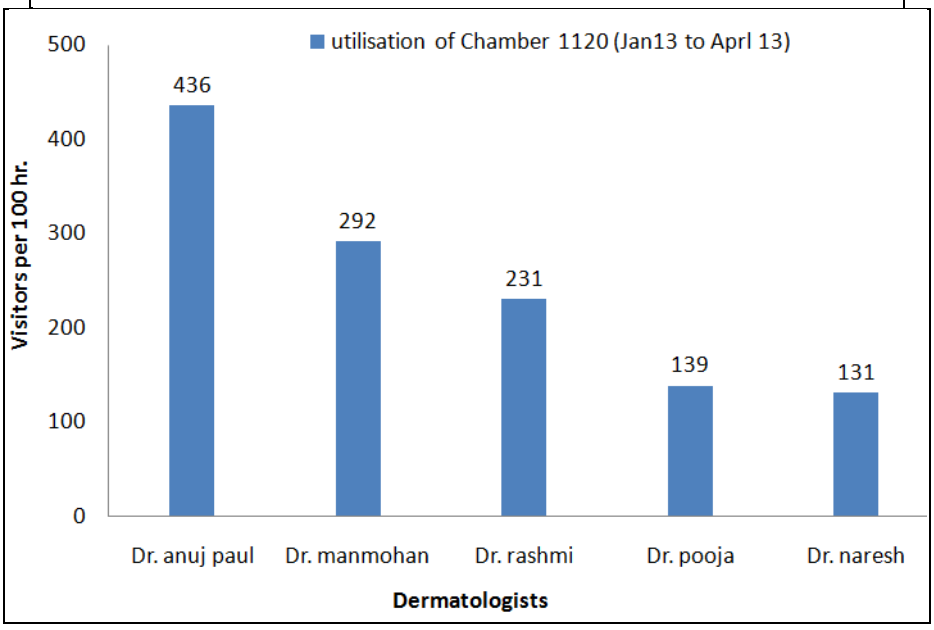

utilisation of Chamber 1125 (Jan13 to Aprl 13)
Visitors per 100 hr.
600
500
400
300
200
100
0
271
220
181
139
89
47
Dr. atul
Dr. reita
Dr. anuj singhal
Dr. pohar(ravinder team)
Dr. Sanjay
Dr. gaurav
E.N.T.

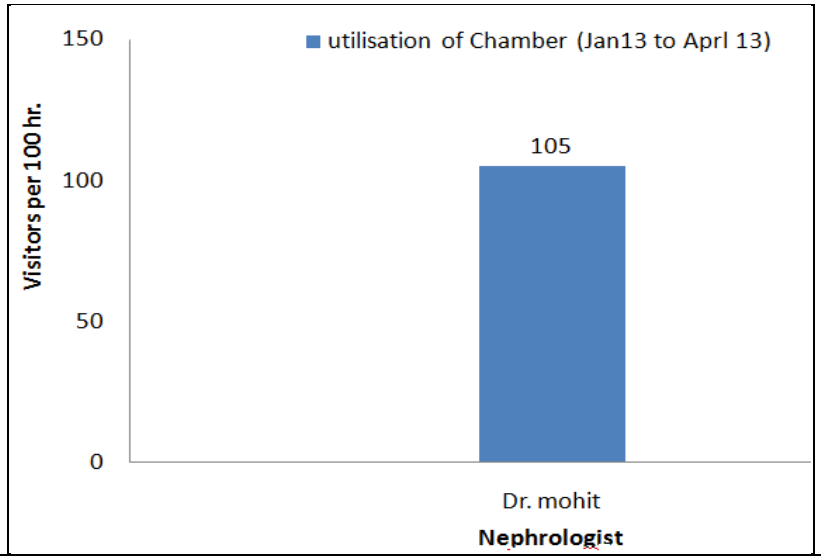

utilisation of Chamber 1131 (Jan13 to Aprl 13)
Visitors per 100 hr.
600
500
400
300
200
100
0
484
450
377
372
202
187
32
29
Dr. vipul
Dr. sidhaarth
Dr. ajay karkara
Dr. babita
Dr. himanshu
Dr. tazeen
Dr. anjali
Dr. ajay arora
Pediatricians

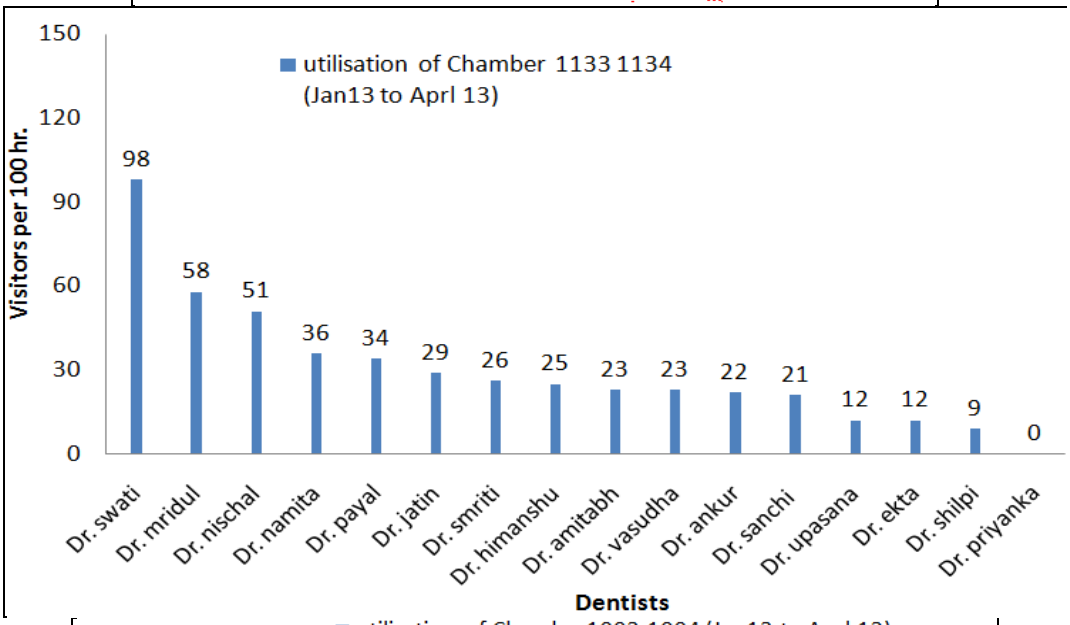

utilisation of Chamber 1121 (Jan13 to Aprl 13)
Visitors per 100 hr.
160
120
80
40
0
104
44
43
41
10
0
51
34
8
3
3
0
Dr. kapil
dr. pankaj
Dr. radha
Dr. thichen
Dr. gautam
Dr. sabreena
Dr. raghav
Dr. prateek
Dr. rohit
Dr. madhubari
Dr. chiranjeev
Dr. narender
Pediatric development n Aesthetics

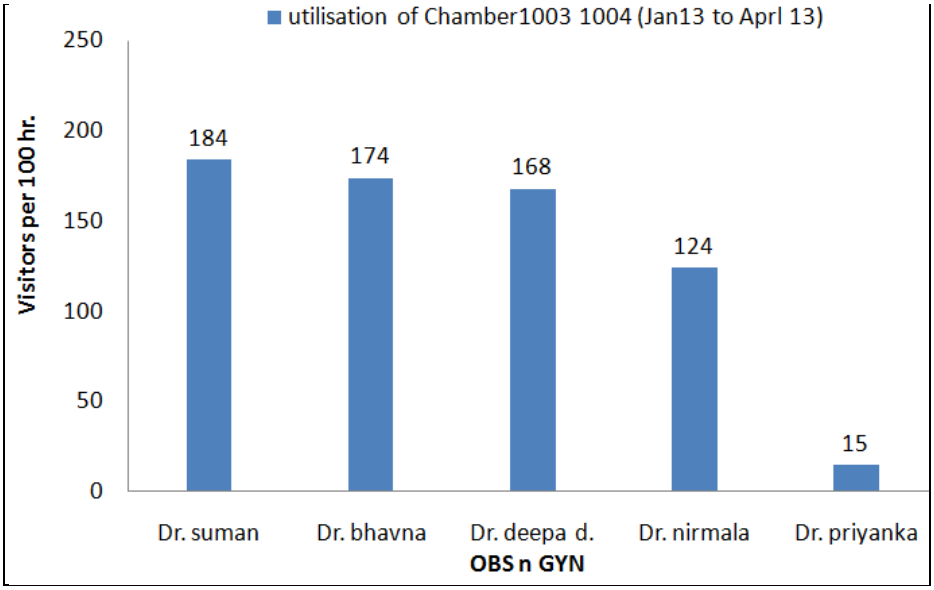

utilisation of Chamber 1128 (Jan13 to Aprl 13)
Visitors per 100 hr.
240
180
120
60
0
124
95
56
Dr. rajiv
Dr. ashutosh
Dr. nitin
Psychiatrists

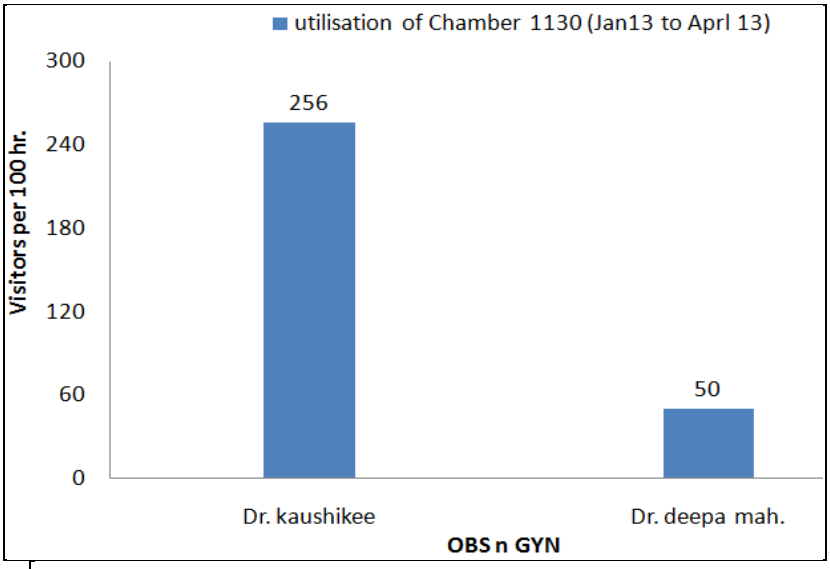

utilisation of Chamber 1129 (Jan13 to Aprl 13)
Visitors per 100 hr.
150
100
50
0
93
42
Dr. roma
Dr. trinka
Clinical Psychology

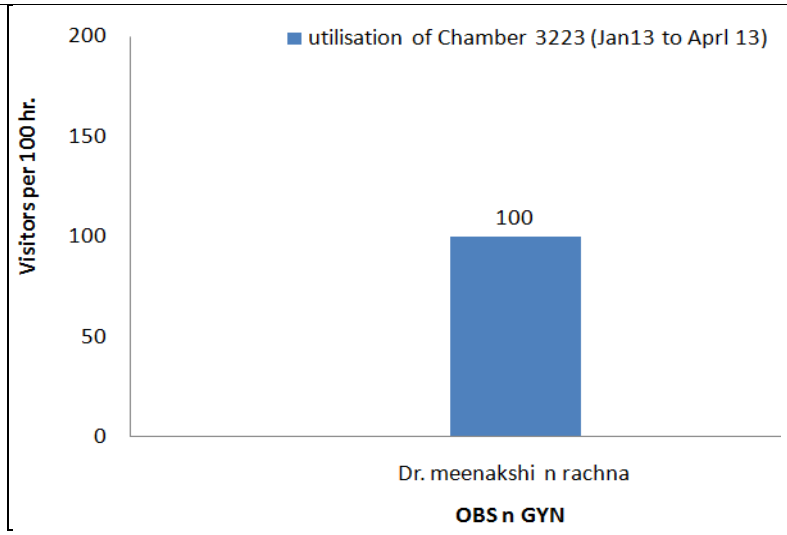

utilisation of Chamber 1120 (Jan13 to Aprl 13)
Visitors per 100 hr.
500
400
300
200
100
0
436
292
231
139
131
Dr. anuj paul
Dr. manmohan
Dr. rashmi
Dr. pooja
Dr. naresh
Dermatologists

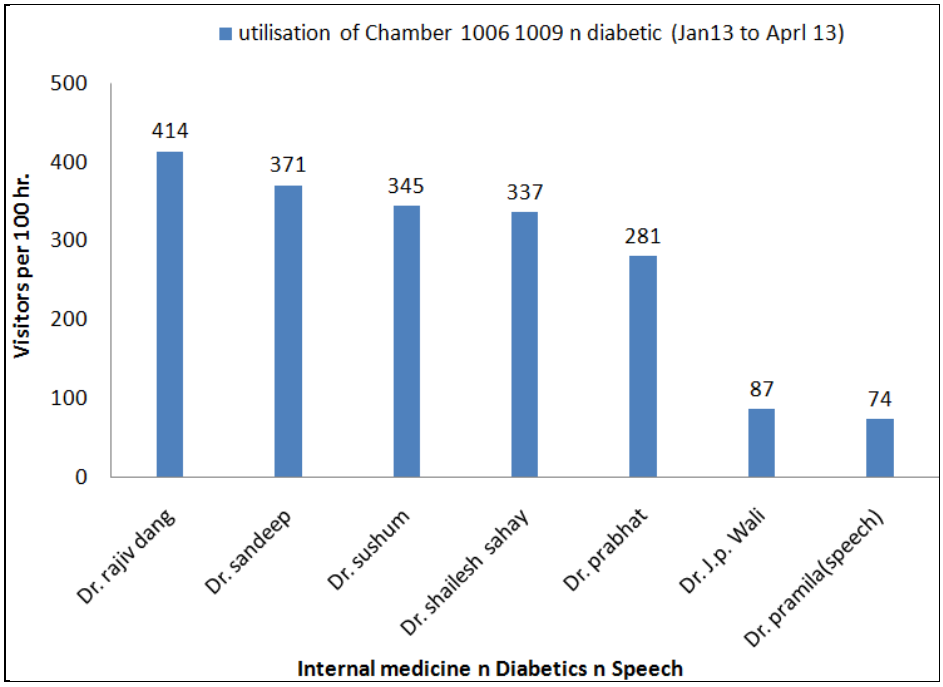

utilisation of Chamber (Jan13 to Aprl 13)
Visitors per 100 hr.
150
100
50
0
105
Dr. mohit
Nephrologist


utilisation of Chamber 1133 1134 (Jan13 to Aprl 13)
Visitors per 100 hr.
150
120
90
60
30
0
98
58
51
36
34
29
26
25
23
23
22
21
12
12
9
0
Dr. swati
Dr. mridul
Dr. nischal
Dr. namita
Dr. payal
Dr. jatin
Dr. smriti
Dr. himanshu
Dr. amitabh
Dr. vasudha
Dr. ankur
Dr. sanchi
Dr. upasana
Dr. ekta
Dr. shilpi
Dr. priyanka
Dentists


utilisation of Chamber1003 1004 (Jan13 to Aprl 13)
Visitors per 100 hr.
250
200
150
100
50
0
184
174
168
124
15
Dr. suman
Dr. bhavna
Dr. deepa d.
Dr. nirmala
Dr. priyanka
OBS n GYN


utilisation of Chamber 1130 (Jan13 to Aprl 13)
Visitors per 100 hr.
300
240
180
120
60
0
256
50
Dr. kaushikee
Dr. deepa mah.
OBS n GYN


utilisation of Chamber 3223 (Jan13 to Aprl 13)
Visitors per 100 hr.
200
150
100
50
0
100
Dr. meenakshi n rachna
OBS n GYN


utilisation of Chamber 1006 1009 n diabetic (Jan13 to Aprl 13)
Visitors per 100 hr.
500
400
300
200
100
0
414
371
345
337
281
87
74
Dr. rajiv dang
Dr. sandeep
Dr. sushum
Dr. shailesh sahay
Dr. prabhat
Dr. J.p. Wali
Dr. pramila(speech)
Internal medicine n Diabetics n Speech

CONCLUSION:

Some of the consultants have very low no. of Avg. visitors per 100 hrs in 4 months

- Dr. Manish (General surgeon) - **14**
- Dr. Rakesh (Gastroenterologist) - **12**
- Dr. Deepak (Neurologist)- **17**
- Dr. Anjali (pediatrician) - **32**
- Dr. Ajay Arora (Pediatrician) – **29**
- Dr. Gautam (pediatric development) - **10**
- Dr. Sabreena (pediatric development) – **0**
- Dr. Rohit (Aesthetics) - **8**
- Dr. Madhubari (Aesthetics) - **3**
- Dr. Chiranjeev (Aesthetics) - **3**
- Dr. Narender (Aesthetics) – **0**
- Dr. Ekta (dentist) – **12**
- Dr. Shilpi (dentist) – **9**
- Dr. Priyanka (dentist) – **0**
- Dr. Priyanka (OBS) – **15**
- Dr. J.P. Wali (diabetes) – **87**

- Some of the consultants have high no. of Avg. visitors per 100 hrs in 4 months:
  - Dr. Richa (Endocrinologist) – **229**
  - Dr. Shalabh Mohan (general surgeon) – **69**
  - Dr. Arvind (cardiologist) – **150**
  - Dr. Vivek (Gastroenterologist) – **188**
  - Dr. Nevin (Pulmonologist) – **132**
  - Dr. Sameer (Orthopaedics) – **571**
  - Dr. Aroop (Orthopaedics) – **543**
  - Dr. Abhijeet (Orthopaedics) – **512**
  - Dr. Joy dev (Neurologist) – **206**
  - Dr. Gobind (Podiatry) – **168**
  - Dr. Mayank (Neurologist) – **154**
  - Dr. Pradeep (Urologist) – **230**
  - Dr. Sriram Garg (rheumatologist) – **537**
  - Dr. Atul (E.N.T.) – **221**
  - Dr. Vipul (pediatrician) – **484**
  - Dr. Kapil (Pediatric development) – **104**
  - Dr. Raghav (aesthetic) – **51**
  - Dr. Rajiv (Psychiatrist) – **124**
  - Dr. Roma (Clinical Psychology) – **93**
  - Dr. Anuj Paul (dermatologist) – **436**
  - Dr. Swati (dentist) – **98**
  - Dr. Kaushikee (OBS) – **256**
  - Dr. Rajiv Dang (internal medicine) - **414**

ANALYSIS OF PHP PROCESS

ISSUE: Long waiting time of patients coming for PHP (health checkup)

PROBLEM STATEMENT: What are the factors responsible for the long waiting time of patients coming for PHP (health checkup)?

RATIONALE OF THE STUDY:

Quality of Diagnostic services are been judged by the patient during the health checkup, also other services of the hospital are also been observed by the patient but mainly Diagnostic services is the main part. So, it needs to be very well organized and managed to provide the high level of satisfaction to the patients. As PHP department is good source of revenue as compared to revenue from OPD.

REVIEW OF LITERATURE:

1. **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.

2. **Understanding Preventive Health Check market dynamics, competition**

   Benchmarking and recommendations for product and process improvement

   By Ashish Kumar Gupta

At Max Healthcare we are totally committed to the adage 'Prevention is better than cure'. Our Preventive Healthcare Programme is a comprehensive set of tests, which have been specially designed keeping in mind your needs.
The PHPs are very simple to understand and the Health check take a few hours to assure your well being in the long run. We assess your stress, diet and exercise quotient for making suitable modifications in your lifestyle. This preventive programme is also directed to help you take precautionary measures against communicable and non-communicable diseases. Preventive health checkups are very useful in early detection of all types of illnesses and risk factors. Max Healthcare has a repertoire of preventive health check packages viz.
Fast Facts:
Reduction of salt intake in diet decreases incidence of strokes by 35% and heart attacks by 20% A long-term reduction in serum cholesterol concentration of 10% (which is in the range of lifestyle change) lowers the risk of coronary heart disease (CHD) by 50% at age 40, falling to 20% at age 70 Few interesting results of PHP at Mayo clinic - 5% people were found to have a life threatening disease and another 30% had a previously undiagnosed severe disease condition. Data shows that employees of big corporations undertaking regular health checks have 45% less absenteeism and their medical reimbursements are 20% less. Net return on investment for the organization, purely in financial terms, is 2.3:1

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.

GENERAL OBJECTIVE:

- Understand all sequential steps of current PHP process and identification of bottlenecks for delays in PHP process.

SPECIFIC OBJECTIVES:

- Understand the each step of current PHP process.
- Measure the average time taken for completion of each PHP package.
- Identify the reasons for delay in PHP process.
- Recommend possible solutions to solve out the issues for delay in PHP process.

METHODOLOGY:

Study Place: PHP area at Max Hospital, Gurgaon

Study Type: Observational study

Study Population: Patients undergoing Health checkup at PHP in Max Hospital, Gurgaon during the study period.

Sample Size: Collected for **1 week** by direct observation and informal interview with the staff.

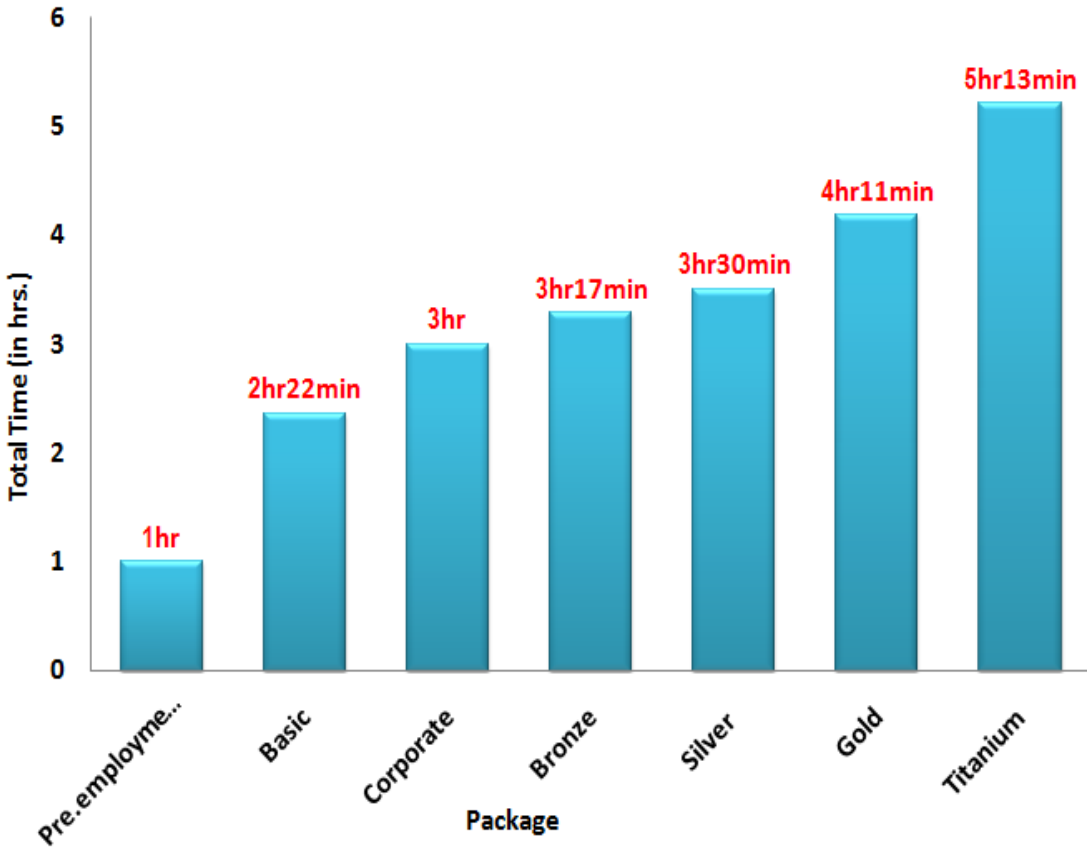
Every test is been observed and the time taken for each of these steps is recorded, analyzed and the bottlenecks occurring at every step is identified and corrective measures are suggested for **maximum patient satisfaction.**

Primary Data Collection: Through PHP Track sheets and edited in MS-Excel

Direct Observation & Informal interview: To study the process of PHP and for recording time at every step.

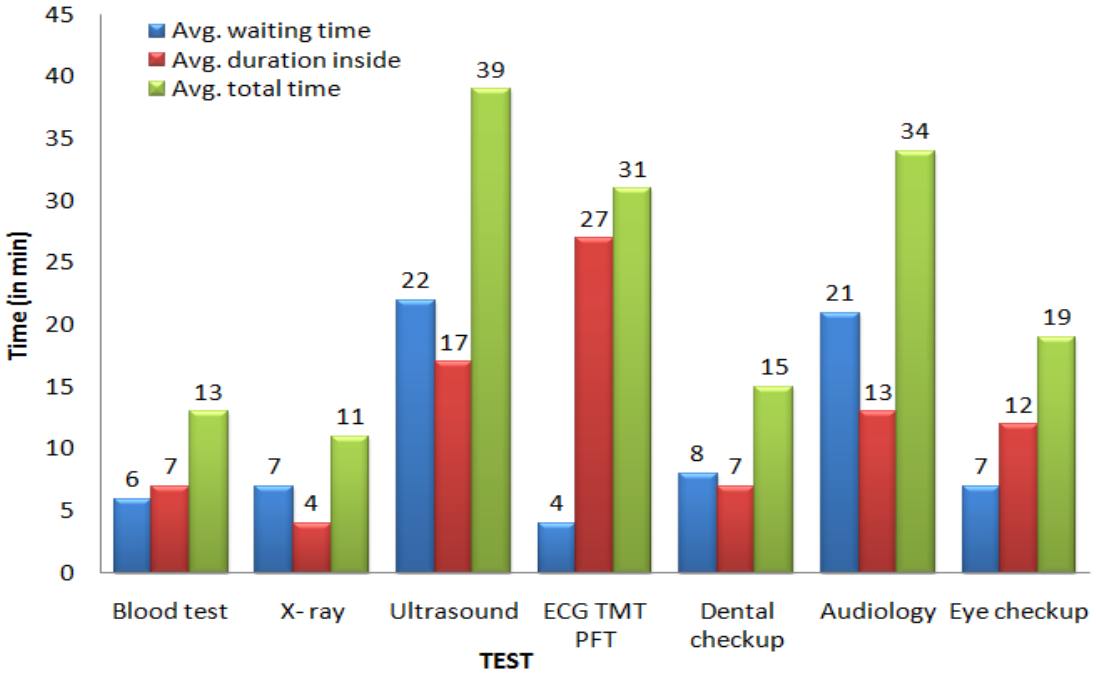
Process Mapping: Entire patient flow process is understood and mapped.

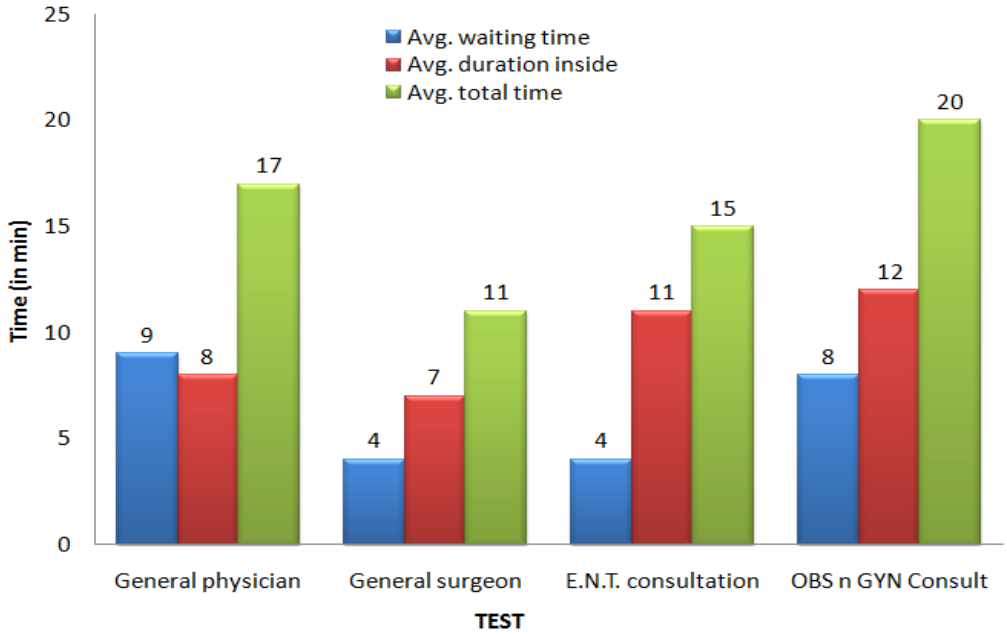
Secondary Data Collection: PHP patient track sheets to know the test in each package.



DISCUSSION:

- Factors responsible for delay in PHP Process:
    1. Single ultrasound machine available in the morning, and which increases waiting time of patient.
    2. No swipe machine and Xerox machine is there at PHP billing, which increase time in billing.
    3. Lack of PHP Staff to co-ordinate with the patient.





CONCLUSION:

- Waiting time is too long for ultrasound and audiology i.e. 22 and 21 mins respectively.
- Average total time in pre. Employment, Basic, Corporate, Bronze, silver, Gold, Titanium is 1, 2hr 22 mins, 3 hrs, 3hrs 17 mins, 3 hrs 30 mins, 4hrs 11 mins, 5 hrs 13 mins, respectively, and it need to be reduced in order to increase the patient satisfaction and to save patient time.
- Patient feels hungry due to long waiting time for ultrasound as they can't take breakfast before ultrasound and this creates inconvenience for the patient specially diabetic patient.

Recommendations:

S.No.	SUGGESTIONS	STATUS
1	Individual locker facility can be provided to each PHP patient to put the valuables, as currently patient has to carry their valuables along with them during their tests.	DONE
2	Gowns can be made available in different sizes and also labels can be over there about their sizes, because currently patient are wearing gowns which are of same size and no label is present on them.	
3	Films from glasses present at nursing station (PHP side) can be removed to increase the visibility of nursing station, and also location of display board for nursing station can be changed.	DONE
4	PHP counter can be interchanged with the nursing station near to it, in order to make easy for the patient to locate nursing station.	
5	Mammography signage need to be corrected as it is showing wrong direction.	
6	Mammography spelling above its room is wrong, it need to be corrected.	
7	ATM can be there in the hospital	
8	prayer room can be made in the hospital	
9	LCD can be wall mounted to increase the space for the patients who are waiting for Consultation at PHP side.	DONE
10	Wall clock can be hanged at PHP side OPD waiting area.	DONE
11	Swipe machine can be made available at PHP billing Counter, otherwise PHP staff as to go to main OPD billing counter to swipe, which takes time.	DONE
12	Printer available at PHP billing counter can be upgraded for Xerox, then PHP Staff will not have to go to main OPD billing area for Xerox of ID proof of PHP patients.	
13	Proper signage can be made for drinking water and facilities at ground floor, to avoid inconvenience to patients.	
14	Actual worth of individual package in health check up can be mention, in order to make easy for the patient to select the package.	
15	Proper information to the PHP staff about gift coupons mentioned in the brochure can be given to them, in order to give the answer to patient query.	DONE
16	Change of 1000 and 500rs can be made available at PHP billing counter, as in the morning they don't have any change to return back to patient.	

17	Separate diagnostic form can be made available in each consultant chamber along with the prescription and consultant can mark the test which is to be done for the patient, because staff at billing is unable to read the prescription and they do mistakes in billing diagnostics.	
18	Printed information sheet can be given to patients or scan copy can be mailed to patients before coming to check up because patient forgot about precautions to be taken before coming for health check up.	
19	One more additional ophthalmologist and PHP staff can be there on Saturday, to avoid the co-ordination problem at PHP on Saturday due to more no. of patients on sat for health check up.	
20	Small visiting cards can be made available at help desk with separate contact no. of PHP on it, as patient face difficulty in making change in the appointment made for PHP or to ask any query related to PHP	
21	Report and review should not be done so late, it should be within 1-2 days, as currently it takes 3-4 days.	
22	Both the Ultrasound machines can be made operational and till afternoon one machine should be strictly for PHP patients, because Patient has to wait too long for Ultrasound as there is only one machine is operational.	
23	Weighing machines need to be replaced because Type of Weighing machine available at nursing station is not proper, it takes time and problem in weighing	DONE
24	BMI chart or BMI calculator in their computer can be there to calculate the BMI of patients during their vitals in health checkup program.	DONE
25	Some news channel can be displayed on the LCD's rather than only advertisement, as patient feel bored while waiting for the consultation.	
26	Nursing staff should come out from nursing station and go personally to the patient to call for the consultation, it will give personal touch to patients, rather than Nursing staff call the name of patient who are waiting in OPD from inside the nursing station which looks very bad.	
27	Glass partition can be done at PHP billing counter to avoid disturbance due to crowd of patients for PHP billing.	
28	Complaint book should be there at billing counters according to NABH.	
29	Box can be there to drop the filled feedback forms by patient, as currently they are just given to the billing staff.	DONE

30	Token counter can be made operational to avoid inconvenience to the patient.	
31	LCD can be hanged at OPD waiting area to display the name of patients waiting for the consultation along with the consultant name, and patient name gets highlighted when his/her turn comes.	
32	Known patients of consultant are going directly for consultation without billing should be noted by nursing staff.	
33	Billing time on the invoice is 6 mins ahead by Indian standard time, it need to be changed.	DONE
34	Notice board can be there to display the Room no. and consultant name at OPD waiting area.	
35	Online payment gateway can be made for Billing rather than only appointment fixing to reduce the waiting time of patient for billing.	
36	Proper Hoarding can be there along the road to make it easy for the patients to locate it while coming from IIFCO metro.	
37	Drinking water can be made available for the patients waiting for OPD consultation on third floor.	DONE

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)
- **Outpatient improvement and innovation strategy**
  Progress report (June 2008)
  Published by the Victorian Government Department of Human Services, Melbourne, Victoria
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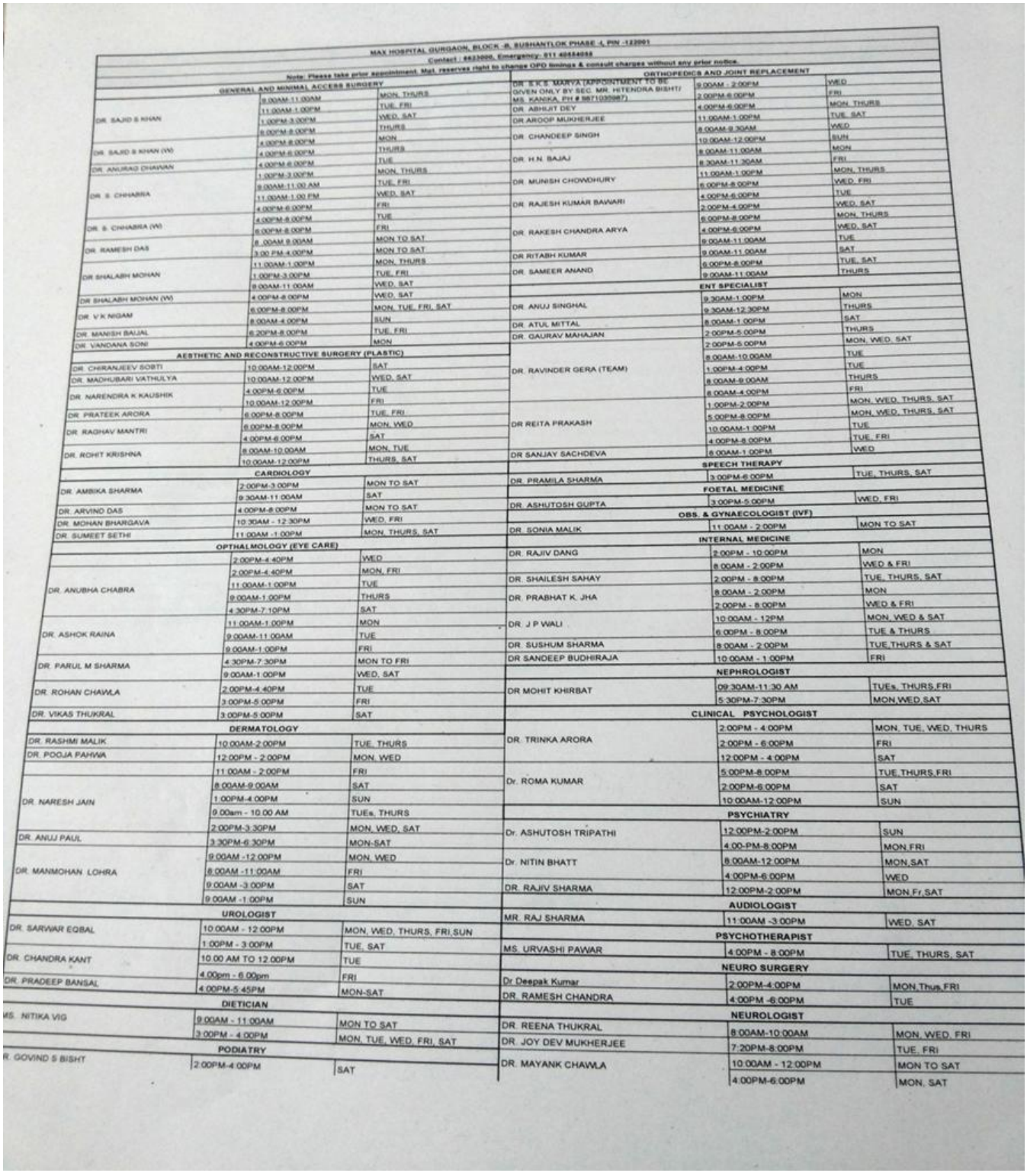
- ^ Dr.Vinay vatsayan (June 2010), "**A study of the hospital billing system in tertiary care hospital with special reference to insurance patients**", p.29(1)
- **Patient Waiting Time: It's Impact on Hospital Outpatient Department**
  Dr. Sandesh Kumar Sharma, Research Scholar (Hospital Management),Suresh Gyan Vihar University
  Dr. Sudhinder Singh Chauhan, 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
- **Simple Tips to Improve Patient Satisfaction**
  By Michael Pulia
  American Academy of Emergency Medicine. 2011; 18 (1):18–19.

APPENDICES

1. Data for chamber utilization:



MAX HOSPITAL GURGAON, BLOCK -B, SUSHANTLOK PHASE -I, PIN -122001
Contact : 8923000, Emergency: 011 40554055
Note: Please take prior appointment. Mgt. reserves right to change OPD timings & consult charges without any prior notice.

GENERAL AND MINIMAL ACCESS SURGERY		
DR. SAJID S KHAN	9.00AM-11.00AM	MON, THURS
	11.00AM-1.00PM	TUE, FRI
	1.00PM-3.00PM	WED, SAT
	6.00PM-8.00PM	THURS
DR. SAJID S KHAN (W)	4.00PM-8.00PM	MON
	4.00PM-6.00PM	THURS
DR. ANURAG DHAWAN	4.00PM-6.00PM	TUE
	1.00PM-3.00PM	MON, THURS
DR. S. CHHABRA	9.00AM-11.00 AM	TUE, FRI
	11.00AM-1.00 PM	WED, SAT
	4.00PM-6.00PM	FRI
DR. S. CHHABRA (W)	4.00PM-8.00PM	TUE
	6.00PM-8.00PM	FRI
DR. RAMESH DAS	8 .00AM 9.00AM	MON TO SAT
	3.00 PM -4.00PM	MON TO SAT
DR SHALABH MOHAN	11.00AM-1.00PM	MON, THURS
	1.00PM-3.00PM	TUE, FRI
	9.00AM-11.00AM	WED, SAT
DR SHALABH MOHAN (W)	4.00PM-8.00PM	WED, SAT
DR. V.K NIGAM	6.00PM-8.00PM	MON, TUE, FRI, SAT
	8.00AM-4.00PM	SUN
DR. MANISH BAJAL	6.20PM-8.00PM	TUE, FRI
DR. VANDANA SONI	4.00PM-6.00PM	MON

AESTHETIC AND RECONSTRUCTIVE SURGERY (PLASTIC)		
DR. CHIRANJEEV SOBTI	10.00AM-12.00PM	SAT
DR. MADHUBARI VATHULYA	10.00AM-12.00PM	WED, SAT
DR. NARENDRA K KAUSHIK	4.00PM-6.00PM	TUE
	10.00AM-12.00PM	FRI
DR. PRATEEK ARORA	6.00PM-8.00PM	TUE, FRI
DR. RAGHAV MANTRI	6.00PM-8.00PM	MON, WED
	4.00PM-6.00PM	SAT
DR. ROHIT KRISHNA	8.00AM-10.00AM	MON, TUE
	10.00AM-12.00PM	THURS, SAT

CARDIOLOGY		
DR. AMBIKA SHARMA	2.00PM-3.00PM	MON TO SAT
	9.30AM-11.00AM	SAT
DR. ARVIND DAS	4.00PM-8.00PM	MON TO SAT
DR. MOHAN BHARGAVA	10.30AM - 12.30PM	WED, FRI
DR. SUMEET SETHI	11.00AM -1.00PM	MON, THURS, SAT

OPTHALMOLOGY (EYE CARE)		
DR. ANUBHA CHABRA	2.00PM-4.40PM	WED
	2.00PM-4.40PM	MON, FRI
	11.00AM-1.00PM	TUE
	9.00AM-1.00PM	THURS
	4.30PM-7.10PM	SAT
DR. ASHOK RAINA	11.00AM-1.00PM	MON
	9.00AM-11.00AM	TUE
	9.00AM-1.00PM	FRI
DR. PARUL M SHARMA	4.30PM-7.30PM	MON TO FRI
	9.00AM-1.00PM	WED, SAT
DR. ROHAN CHAWLA	2.00PM-4.40PM	TUE
	3.00PM-5.00PM	FRI
DR. VIKAS THUKRAL	3.00PM-5.00PM	SAT

DERMATOLOGY		
DR. RASHMI MALIK	10.00AM-2.00PM	TUE, THURS
DR. POOJA PAHWA	12.00PM - 2.00PM	MON, WED
	11.00AM - 2.00PM	FRI
DR. NARESH JAIN	8.00AM-9.00AM	SAT
	1.00PM-4.00PM	SUN
	9.00am - 10.00 AM	TUEs, THURS
DR. ANUJ PAUL	2.00PM-3.30PM	MON, WED, SAT
	3.30PM-6.30PM	MON-SAT
DR. MANMOHAN LOHRA	9.00AM -12.00PM	MON, WED
	8.00AM -11.00AM	FRI
	9.00AM -3.00PM	SAT
	9.00AM -1.00PM	SUN

UROLOGIST		
DR. SARWAR EQBAL	10.00AM - 12.00PM	MON, WED, THURS, FRI,SUN
	1.00PM - 3.00PM	TUE, SAT
DR. CHANDRA KANT	10.00 AM TO 12.00PM	TUE
DR. PRADEEP BANSAL	4.00pm - 6.00pm	FRI
	4.00PM-5.45PM	MON-SAT

DIETICIAN		
MS. NITIKA VIG	9.00AM - 11.00AM	MON TO SAT
	3.00PM - 4.00PM	MON, TUE, WED, FRI, SAT

PODIATRY		
R. GOVIND S BISHT	2.00PM-4.00PM	SAT

ORTHOPEDICS AND JOINT REPLACEMENT		
DR. S.K.S. MARYA (APPOINTMENT TO BE GIVEN ONLY BY SEC. MR. HITENDRA BISHT/ MS. KANIKA, PH # 9871030987)	9.00AM - 2.00PM	WED
	2.00PM-6.00PM	FRI
DR. ABHIJIT DEY	4.00PM-6.00PM	MON, THURS
DR AROOP MUKHERJEE	11.00AM-1.00PM	TUE, SAT
DR. CHANDEEP SINGH	8.00AM-9.30AM	WED
	10.00AM-12.00PM	SUN
DR. H.N. BAJAJ	8.00AM-11.00AM	MON
	8.30AM-11.30AM	FRI
DR. MUNISH CHOWDHURY	11.00AM-1.00PM	MON, THURS
	6.00PM-8.00PM	WED, FRI
DR. RAJESH KUMAR BAWARI	4.00PM-6.00PM	TUE
	2.00PM-4.00PM	WED, SAT
DR. RAKESH CHANDRA ARYA	6.00PM-8.00PM	MON, THURS
	4.00PM-6.00PM	WED, SAT
	9.00AM-11.00AM	TUE
DR RITABH KUMAR	9.00AM-11.00AM	SAT
DR. SAMEER ANAND	6.00PM-8.00PM	TUE, SAT
	9.00AM-11.00AM	THURS

ENT SPECIALIST		
DR. ANUJ SINGHAL	9.30AM-1.00PM	MON
	9.30AM-12.30PM	THURS
DR. ATUL MITTAL	8.00AM-1.00PM	SAT
DR. GAURAV MAHAJAN	2.00PM-5.00PM	THURS
	2.00PM-5.00PM	MON, WED, SAT
DR. RAVINDER GERA (TEAM)	8.00AM-10.00AM	TUE
	1.00PM-4.00PM	TUE
	8.00AM-9.00AM	THURS
	8.00AM-4.00PM	FRI
DR REITA PRAKASH	1.00PM-2.00PM	MON, WED, THURS, SAT
	5.00PM-8.00PM	MON, WED, THURS, SAT
	10.00AM-1.00PM	TUE
	4.00PM-8.00PM	TUE, FRI
DR SANJAY SACHDEVA	8.00AM-1.00PM	WED

SPEECH THERAPY		
DR. PRAMILA SHARMA	3.00PM-6.00PM	TUE, THURS, SAT

FOETAL MEDICINE		
DR. ASHUTOSH GUPTA	3.00PM-5.00PM	WED, FRI

OBS. & GYNAECOLOGIST (IVF)		
DR. SONIA MALIK	11.00AM - 2.00PM	MON TO SAT

INTERNAL MEDICINE		
DR. RAJIV DANG	2.00PM - 10.00PM	MON
	8.00AM - 2.00PM	WED & FRI
DR. SHAILESH SAHAY	2.00PM - 8.00PM	TUE, THURS, SAT
DR. PRABHAT K. JHA	8.00AM - 2.00PM	MON
	2.00PM - 8.00PM	WED & FRI
DR. J P WALI	10.00AM - 12PM	MON, WED & SAT
	6.00PM - 8.00PM	TUE & THURS
DR. SUSHUM SHARMA	8.00AM - 2.00PM	TUE,THURS & SAT
DR SANDEEP BUDHIRAJA	10.00AM - 1.00PM	FRI

NEPHROLOGIST		
DR MOHIT KHIRBAT	09.30AM-11.30 AM	TUEs, THURS,FRI
	5.30PM-7.30PM	MON,WED,SAT

CLINICAL PSYCHOLOGIST		
DR. TRINKA ARORA	2.00PM - 4.00PM	MON, TUE, WED, THURS
	2.00PM - 6.00PM	FRI
	12.00PM - 4.00PM	SAT
Dr. ROMA KUMAR	5.00PM-8.00PM	TUE,THURS,FRI
	2.00PM-6.00PM	SAT
	10.00AM-12.00PM	SUN

PSYCHIATRY		
Dr. ASHUTOSH TRIPATHI	12.00PM-2.00PM	SUN
	4.00-PM-8.00PM	MON,FRI
Dr. NITIN BHATT	8.00AM-12.00PM	MON,SAT
	4.00PM-6.00PM	WED
DR. RAJIV SHARMA	12.00PM-2.00PM	MON,Fr,SAT

AUDIOLOGIST		
MR. RAJ SHARMA	11.00AM -3.00PM	WED, SAT

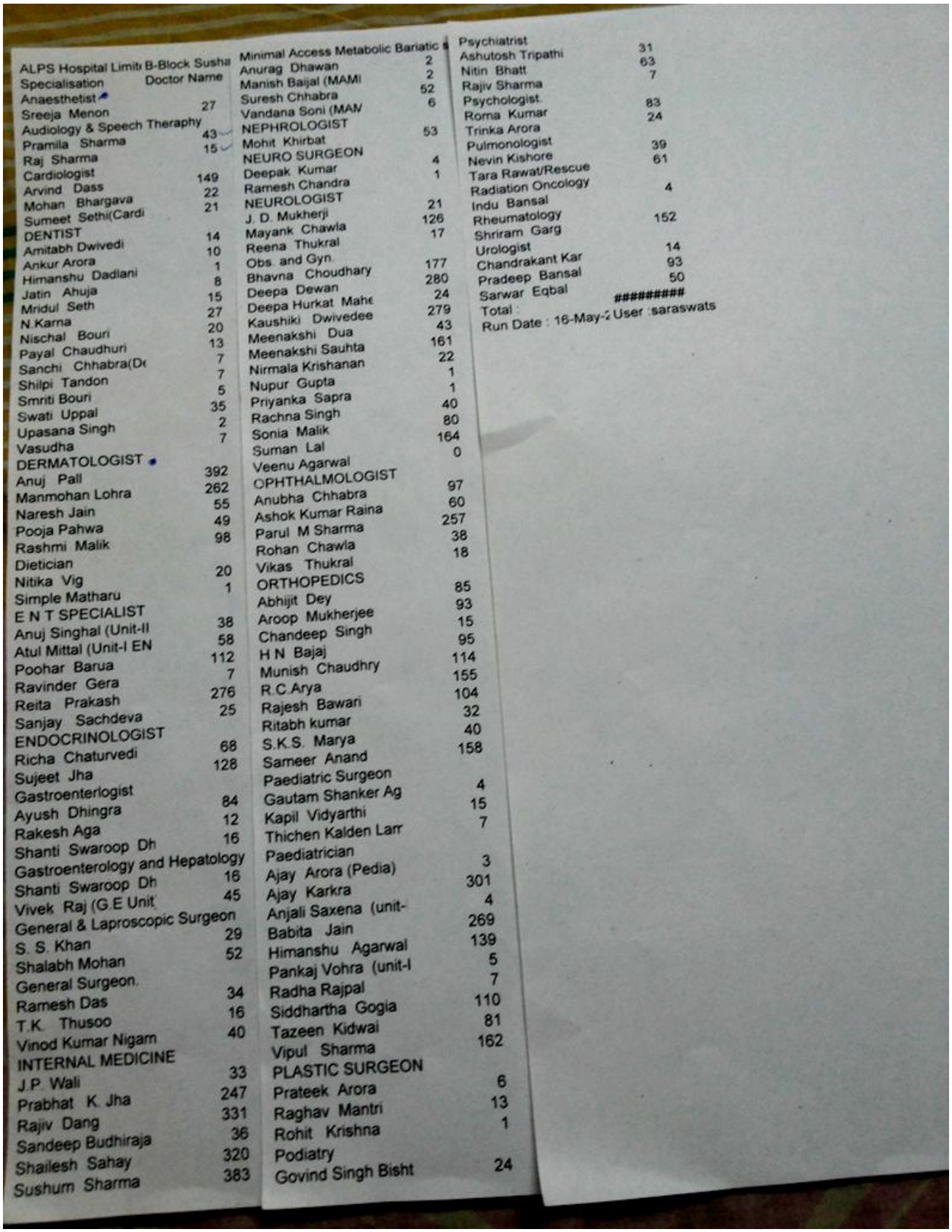
PSYCHOTHERAPIST		
MS. URVASHI PAWAR	4.00PM - 8.00PM	TUE, THURS, SAT

NEURO SURGERY		
Dr Deepak Kumar	2.00PM-4.00PM	MON,Thus,FRI
DR. RAMESH CHANDRA	4.00PM -6.00PM	TUE

NEUROLOGIST		
DR. REENA THUKRAL	8.00AM-10.00AM	MON, WED, FRI
DR. JOY DEV MUKHERJEE	7.20PM-8.00PM	TUE, FRI
DR. MAYANK CHAWLA	10.00AM - 12.00PM	MON TO SAT
	4.00PM-6.00PM	MON, SAT

PULMONOLOGY		
DR. TARA RAWAT	9:00AM - 11:00AM	MON, WED, FRI
	4:00PM-6:00PM	TUE, THURS, SAT
DR. NEVIN KISHORE	10:00AM-12:00PM	TUE, THURS, SAT
ENDOCRINOLOGY		
DR. ANJU VIRMANI	2:00PM-4:00PM	FRI
DR. MONASHISH SAHU	10:00AM - 12:00PM	MON, THURS
DR. SUJEET JHA	4:00PM-6:00PM	TUE, THURS
	2:00PM-6:00PM	SAT
DR. RICHA CHATURVEDI	4:00PM- 6:00PM	MON, WED, FRI
DR. PRABHAT KR. JHA (Diabetic)	1:00PM-3:00PM	TUE, THURS
DR. RAJIV DANG (Diabetic)	11:00AM - 1:00PM	TUE, THURS, SAT
DR. SHAILESH SAHAY (Diabetic)	2:00PM-4:00PM	MON, WED
DR. SUSHUM SHARMA (Diabetic)	9:00AM-12:00AM	MON, WED, FRI
PAEDIATRIC		
DR. BABITA JAIN	11:00AM-2:00PM	MON - SAT
DR. VIPUL SHARMA	9:00AM-11:00AM	MON, WED, FRI
DR. HIMANSHU AGARWAL	9:00AM-11:00AM	TUE, THURS, SAT
	2:00PM - 4:00PM	MON, THURS
DR. AJAY KARNARA (NEONATOLOGIST)	4:00PM-6:00PM	MON, WED, THURS, FRI
	3:00PM-6:00PM	TUE
	6:00PM -8:00PM	SAT
DR. AJAY ARORA	4:00PM- 6:00PM	TUE, FRI
DR. SIDDHARTH GOGIA	2:00PM-4:00PM & 6:00PM- 8:00	WED, FRI
DR. TAZEEN KIDWAI	6:00PM-8:00PM	MON & THURS
	2:00PM-5:00PM	TUE
	2:00PM-6:00PM	SAT
DR SABRINA SABHARWAL (CHILD DEV SPECIALIST)	2:00PM-3:40PM	THURS
DR. ANJALI SAXENA (ADOLESCENT CLINIC)	3:00PM - 5:00PM	FRI
DR. PANKAJ VOHRA (Paed Gastro)	4:00PM-6:00PM	SAT
DR [illegible] NEONATOLOGIST([illegible] MONTHS)	4:00PM-6:00PM	TUE, FRI
DR. RADHA RAJPAL (PEAD. DEVELOPMENT)	2:00PM-4:00PM	MON, WED , SAT
DR. VIRESH MAHAJAN (PEAD. CARDIO)	4:00PM - 6:00PM	FRI
PAEDIATRIC SURGERY		
DR. GAUTAM SHANKER AGARWAL	2:00PM -4:00PM	MON, SAT
DR. KAPIL VIDYARTHI	1:00PM-2:00PM	TUE
	12:00PM-2:00PM	THURS
DR. THICHEN LAMA	4:00PM-6:00PM	WED
PAEDIATRIC - SPECIALITY CLINIC(ONLY ON SAT)		
DR. VINAY AGARWAL (Paed Nephro)	4:00PM-6:00PM	1st SAT
DR PANKAJ VOHRA (Paed Gastro)	4:00PM-6:00PM	2nd SAT
DR SHIPRA KAICKER (Paed Haemato Oncologist)	4:00PM-6:00PM	3rd SAT
RHEUMATOLOGY		
DR. SHRIRAM GARG	6:10PM - 8:00PM	MON, TUE, WED
ONCOLOGY		
DR. INDU BANSAL	4:00PM -6:00PM	TUE, THURS,SAT
OCCUPATIONAL THERAPY		
SEEMA GULATI	10:00AM -12:00PM	TUE, THURS, SUN
OBS. & GYNAECOLOGIST APPOINTMENT SLOTS		
DR. MEENAKSHI SAHOTE	9:00AM - 1:00PM	MON, THURS, SAT
	10:00AM-1:00PM	TUE
	9:00AM-10:00AM	WED
	12:00PM-2:00PM	WED
	2:00PM-4:00PM	FRI
DR. SUMAN LAL	6:00PM - 8:00PM	MON
	11:00AM - 2:00PM	TUE
	2:00PM - 4:00PM	THURS
	12:00PM - 2:00PM	FRI
	10:00AM - 12:00PM	SAT
DR. BHAVNA CHOUDHARY	4:00PM - 6:00PM	MON & SAT
	8:00AM -11:00AM	TUE
	2:00PM - 4:00PM	WED
	8:00AM -10:00AM	FRI
	6:00PM -8:00PM	FRI
DR. KAUSHIKEE DWIVEDEE	10:00AM-12:00PM	MON, WED
	5:00PM-6:00PM	TUE
	5:00PM-8:00PM	THURS
	10:00AM-2:00PM	FRI
	4:00PM-6:00PM	SAT
DR. DEEPA DEWAN	10:00AM - 1:00PM	WED, THURS,FRI
	12:00PM-1:00PM	MON
	12:00PM-2:00PM	SAT
	8:00AM -10:00AM	SAT
DR. PRIYANKA SAPRA	8:00AM-10:00AM	MON
	2:00PM-4:00PM	THURS
DR. RACHNA SINGH	4:00PM-6:00PM	TUE, THURS
	6:00PM-8:00PM	SAT
DR DEEPA H MAHESHWARI	6:00PM-8:00PM	MON, WED
	10:00AM-2:00PM	TUE
	10:00AM-12:00PM	THURS, SAT
	4:00PM-6:00PM	FRI
DR NIRMALA KRISHNAN	12:00PM - 2:00PM	MON, THURS

GASTROENTEROLOGY		
DR. VIVEK RAJ	4:00PM-6:00PM	MON, WED, FRI
DR. AYUSH DHINGRA	8:00am - 9:00am	MON, WED
	9:00AM - 1:00PM	TUE, THURS, SAT
DR. SWATI SWAROOP DHAR	4:00PM-6:00PM	SAT
	9:00PM - 1:00PM	TUE, THURS, SAT
Dr RAKESH ASA	2:00PM-5:00PM	TUE, THURS
	12:00PM-2:00PM	SAT
	4:00PM-6:00PM	SAT
	9:00-2:00PM	MON, WED, FRI
DENTAL		
DR. NAMITA NARNA	4:00PM - 8:00PM	THURS
	9:00AM - 12:00PM	WED
	2:00PM - 5:00PM	FRI
DR. SMRITI BOURI	9:00AM - 1:00PM	TUE
	8:00AM-12:00PM	THURS
DR. PAYAL CHAUDHURI	5:00PM-8:00PM	FRI
DR PRIYANK JAYNA	6:00PM - 8:00PM	TUE
DR. SHILPI TANDON	5:00PM - 8:00PM	MON
	8:00AM - 4:00PM	TUE
	4:00PM - 8:00PM	WED
	8:00AM - 12:00PM	THURS
	9:00AM - 4:00PM	SAT
DR. SANCHI	2:00PM-6:00PM	TUE
	12:00PM-2:00PM	THURS
DR. UPASANA SINGH	8:00AM - 4:00PM	MON
	1:00PM-4:00PM	SAT
	2:00PM - 4:00PM	THURS
DR. AMITABH	8:00AM-12:00PM	SAT
	12:00PM - 4:00PM	MON, FRI
DR. HIMANSHU	12:00PM - 4:00PM	WED
	10:00AM - 2:00PM	SUN
DR. ANKUR ARORA	9:00AM-12:00PM	MON
	4:00PM-8:00PM	TUE
DR. JATIN AHUJA	2:00PM - 8:00PM	THURS
DR. VASUDHA	4:00PM - 8:00PM	MON, SAT
	12:00PM-2:00PM	WED
	9:00AM - 12:00PM	FRI
DR. EKTA CHADHA	12:00PM - 2:00PM	THURS
DR. NISCHAL BOURI	2:00PM - 8:00PM	WED
	4:00PM - 8:00PM	SAT
DR. NANDITA GROVER	9:00AM - 12:00PM	FRI
DR. SWATI UPPAL	4:00PM - 8:00PM	MON
	6:00PM - 8:00PM	TUE
	12:00PM - 2:00PM	FRI
DR. MRIDUL SETH	8:00AM - 12:00PM	WED
	4:00PM - 6:00PM	FRI
PHYSIOTHERAPY		
DR. MANISH BHAGAT	10:00AM - 12:00PM	TUE, THURS, SAT
PHYSIOTHERAPY TEAM	8:00AM- 8:00PM	MON-SAT
OBS. & GYNAECOLOGIST WALK IN SLOTS		
DR. BHAVNA CHOUDHARY	6:00PM -8:00PM	MON
	4:00PM - 6:00PM	TUE
	10:00AM - 12:00PM	THURS
	4:00PM - 6:00PM	THURS
	8:00AM -10:00AM	SAT
DR. DEEPA DEWAN	8:00AM -12:00PM	MON
	10:00AM -2:00PM	TUE
	4:00PM-8:00PM	FRI
	8:00AM-10:00AM	WED
	10:00AM-12:00PM	SAT
DR. KAUSHIKEE DWIVEDEE	12:00PM -2:00PM	MON, WED
	6:00PM -8:00PM	TUE, SAT
DR. MEENAKAHI SAHOTE	2:00PM -4:00PM	MON, SAT
	8:00AM-10:00AM	TUE
	10:00AM-12:00PM	WED
	8:00AM-2:00PM	FRI
	2:00PM-4:00PM	SAT
DR. PRIYANKA SAPRA	8:00AM-10:00AM	FRI
DR. RACHNA SINGH	6:00PM-8:00PM	THURS
	4:00PM-6:00PM	SAT
DR. SUMAN LAL	4:00PM-6:00PM	MON
	4:00PM-8:00PM	WED
	12:00PM-2:00PM	THURS, SAT
DR. DEEPA MAHESWARI	8:00AM-10:00AM	THURS
	2:00PM-4:00PM	FRI



ALPS Hospital Limit B-Block Susha

Specialisation / Doctor Name	
Anaesthetist	
Sreeja Menon	27
Audiology & Speech Theraphy	
Pramila Sharma	43
Raj Sharma	15
Cardiologist	
Arvind Dass	149
Mohan Bhargava	22
Sumeet Sethi(Cardi	21
DENTIST	
Amitabh Dwivedi	14
Ankur Arora	10
Himanshu Dadlani	1
Jatin Ahuja	8
Mridul Seth	15
N.Karna	27
Nischal Bouri	20
Payal Chaudhuri	13
Sanchi Chhabra(D	7
Shilpi Tandon	7
Smriti Bouri	5
Swati Uppal	35
Upasana Singh	2
Vasudha	7
DERMATOLOGIST	
Anuj Pall	392
Manmohan Lohra	262
Naresh Jain	55
Pooja Pahwa	49
Rashmi Malik	98
Dietician	
Nitika Vig	20
Simple Matharu	1
E N T SPECIALIST	
Anuj Singhal (Unit-II	38
Atul Mittal (Unit-I EN	58
Poohar Barua	112
Ravinder Gera	7
Reita Prakash	276
Sanjay Sachdeva	25
ENDOCRINOLOGIST	
Richa Chaturvedi	68
Sujeet Jha	128
Gastroenterlogist	
Ayush Dhingra	84
Rakesh Aga	12
Shanti Swaroop Dh	16
Gastroenterology and Hepatology	
Shanti Swaroop Dh	16
Vivek Raj (G.E Unit	45
General & Laproscopic Surgeon	
S. S. Khan	29
Shalabh Mohan	52
General Surgeon.	
Ramesh Das	34
T.K. Thusoo	16
Vinod Kumar Nigam	40
INTERNAL MEDICINE	
J.P. Wali	33
Prabhat K. Jha	247
Rajiv Dang	331
Sandeep Budhiraja	36
Shailesh Sahay	320
Sushum Sharma	383

Minimal Access Metabolic Bariatric S	
Anurag Dhawan	2
Manish Baijal (MAMI	2
Suresh Chhabra	52
Vandana Soni (MAN	6
NEPHROLOGIST	
Mohit Khirbat	53
NEURO SURGEON	
Deepak Kumar	4
Ramesh Chandra	1
NEUROLOGIST	
J. D. Mukherji	21
Mayank Chawla	126
Reena Thukral	17
Obs. and Gyn.	
Bhavna Choudhary	177
Deepa Dewan	280
Deepa Hurkat Mahe	24
Kaushiki Dwivedee	279
Meenakshi Dua	43
Meenakshi Sauhta	161
Nirmala Krishanan	22
Nupur Gupta	1
Priyanka Sapra	1
Rachna Singh	40
Sonia Malik	80
Suman Lal	164
Veenu Agarwal	0
OPHTHALMOLOGIST	
Anubha Chhabra	97
Ashok Kumar Raina	60
Parul M Sharma	257
Rohan Chawla	38
Vikas Thukral	18
ORTHOPEDICS	
Abhijit Dey	85
Aroop Mukherjee	93
Chandeep Singh	15
H N Bajaj	95
Munish Chaudhry	114
R.C.Arya	155
Rajesh Bawari	104
Ritabh kumar	32
S.K.S. Marya	40
Sameer Anand	158
Paediatric Surgeon	
Gautam Shanker Ag	4
Kapil Vidyarthi	15
Thichen Kalden Lam	7
Paediatrician	
Ajay Arora (Pedia)	3
Ajay Karkra	301
Anjali Saxena (unit-	4
Babita Jain	269
Himanshu Agarwal	139
Pankaj Vohra (unit-I	5
Radha Rajpal	7
Siddhartha Gogia	110
Tazeen Kidwai	81
Vipul Sharma	162
PLASTIC SURGEON	
Prateek Arora	6
Raghav Mantri	13
Rohit Krishna	1
Podiatry	
Govind Singh Bisht	24

Psychiatrist	
Ashutosh Tripathi	31
Nitin Bhatt	63
Rajiv Sharma	7
Psychologist	
Roma Kumar	83
Trinka Arora	24
Pulmonologist	
Nevin Kishore	39
Tara Rawat/Rescue	61
Radiation Oncology	
Indu Bansal	4
Rheumatology	
Shriram Garg	152
Urologist	
Chandrakant Kar	14
Pradeep Bansal	93
Sarwar Eqbal	50
Total :	#########

Run Date : 16-May-2 User : saraswats

2. Data for Analysis of PHP Process:

patient name:		Mr. abhijeet Singh		silver package		8th May 13	
s. no.	service	at station	waiting outside	in time	out time	duration inside	total time
1	lab services	9:19	11 mins	9:30	9:37	7 mins	18 mins
2	x ray	9:38	7 mins	9:45	9:49	4 mins	11 mins
3	dentist	9:49	6 mins	9:55	10:04	9 mins	15 mins
4	ultrasound	10:04	22 mins	10:26	10:35	9 mins	31 mins
5	opthalmologist	10:55	1 min	10:56	11:05	9 mins	10 mins
6	internal medicine(dr. sushum)	11:06	21 min	11:27	11:40	13 mins	34 mins
7	ECG TMT PFT	11:45	6 mins	11:51	12:16	25 mins	31 mins
8	general surgeon(dr. chabra)	12:27	4 mins	12:31	12:40	9 mins	13 mins
patient name:		**Mr. ankit jain**		**corp. package**		**8th May 13**	
s. no.	service	at station	waiting outside	in time	out time	duration inside	total time
1	lab services	9:11	3 mins	9:14	9:21	7 mins	10 mins
2	dentist	9:34	1 min	9:35	9:40	5 mins	6 mins
3	xray	9:41	3 mins	9:44	9:46	2 mins	5 mins
4	opthalmologist	10:02	2 mins	10:04	10:12	8 mins	10 mins
5	ECG	10:13	1 min	10:14	10:19	5 mins	6 mins
6	general physician	10:19	6 mins	10:25	10:30	5 mins	11 mins
patient name:		**Mr Pradeep Bansal**		**corp. package**		**8th May 13**	
s. no.	service	at station	waiting outside	in time	out time	duration inside	total time
1	lab services	8:57	7 mins	9:04	9:09	5mins	12 mins
2	xray	9:17	2mins	9:19	9:21	2 mins	4 mins
3	dentist	9:39	21 min	10:00	10:06	6mins	27 mins
4	opthalmologist	10:22	0mins	10:22	10:29	7mins	7 mins
5	general physician (emergenc	10:30	6mins	10:36	10:45	9mins	15 mins
6	ECG	10:45	6 min	10:50	11:00	10mins	16 mins
patient name:		**Mr Lal Singh**		**corp. package**		**8th May 13**	
s. no.	service	at station	waiting outside	in time	out time	duration inside	total time
1	lab services	9:29	10mins	9:39	9:44	5mins	15 mins
2	dentist	9:51	17 min	10:06	10:10	4mins	21 mins
3	opthalmologist	10:12	3mins	10:15	10:27	12mins	15 mins
4	xray	10:27	1mins	10:28	10:29	1mins	2 mins
5	ultrasound	10:30	5min	10:35	10:50	15mins	20 mins
6	Bp , Ht , wt	11:11	0mins	11:11	11:14	3 mins	3 mins
7	ENT	11:14	1 min	11:15	11:24	9mins	10 mins
8	Physician	11:25	11mins	11:36	11:41	5 mins	16 mins
9	ECG	11:42	2 mins	11:44	11:49	5 mins	7 mins

Package	Corporate	Silver	Gold	Titanium	bronze	basic	pre. Emp.
	79	201	287	273	286	170	77
	123	218	224	218	160	251	101
	140	136	258	222	190	177	70
	162	233	306	299	232	35	49
	177	219	220	259	170	141	34
	250	160	226	252	130	91	75
	250	320	303	480	155	134	80
	258	157	203	299	266	188	46
	191	232	301	489	160	167	31
	191	270	198	342	185	96	63
	141	177	229	313	232	115	46
Avg. total time	180	212	251	313	197	142	61
	3 hrs	3 hrs 32 mins	4 hrs 11 mins	5 hrs 13 mins	3 hrs 17 mins	2 hrs 22 mins	1 hr 1 min