

**Summer Training at
Rajiv Gandhi Cancer Institute and Research Centre, Rohini, New Delhi
(April 3 to June 2, 2017)**

Study on Waiting Time for Patients in The Out-Patient Department

**By
Tanveer Singh**

**Under the guidance of
Dr. Arindam Das**

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


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

CERTIFICATE

This is to certify that **Dr. Tanveer Singh** has undergone summer training in **Rajiv Gandhi Cancer Institute and Research centre, New Delhi** from **3rd april to 2nd june, 2017**.

The candidate himself completed the project assigned to him during summer training. His approach to the project was sincere and proactive. The summer training is in partial fulfillment of the course requirement recommended for the award of MBA in Health and Hospital Management

I wish him success in all his future endeavors.



Col. (Dr.) Ashok Kaushik
Dean (Academic & Student Affair)
The IIHMR University, Jaipur



Dr. Arindam Das
Associate Professor and
Associate Dean Research
The IIHMR University, Jaipur



Rajiv Gandhi Cancer Institute and Research Centre

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02/06/2017

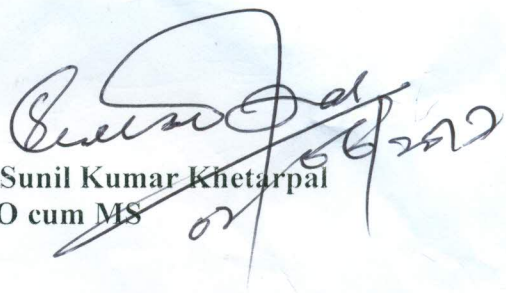
TO WHOMSOEVER IT MAY CONCERN

This is to certify that Dr. Tanveer Singh, MBA in Hospital and Health Management student, from the IIHMR University, Jaipur, has completed his training in this Institute in the department of Operations, from 03rd April 2017 to 02nd June 2017.

His project was on "A study on waiting time in Medical Oncology OPD"

We wish him all the best for his future endeavor.


Swati Chopra
Manager – HR


Dr. Sunil Kumar Khetarpal
COO cum MS

ACKNOWLEDGMENT

Summer training is a golden opportunity for learning and development. I consider myself very lucky and honoured to have so many wonderful people lead me through the completion of the project.

I express my great sense of gratitude to acknowledge the co-operation and support of **Rajiv Gandhi Cancer Institute And Research Centre, NEW DELHI** for giving me this unique privilege of completing my project by visiting its premises for 60 days and providing me an opportunity to interact with its various personnel.

My institute –**Institute of Health Management Research (IIHMR)** Jaipur & its education deserves the foremost appreciation for providing me the opportunity to understand my individual capabilities. I would like to thank **col. (Dr.) Ashok Kaushik** (Dean Academics and Student Affairs, IIHMR, Jaipur) to provide such a great learning opportunity. Of course, entire faculty at IIHMR had facilitated the endeavor. I also acknowledge the contribution of my college mentor, **Arindam Das** in completion of project.

The collection and my learning would not have been possible without the kind support and help from **Dr. Sushma Bhat (General Manager)**. I would like to thanks for her support and guidance.

DECLARATION

I do hereby declare that I am a student of 1st year, MBA in Hospital and Healthcare Management, IIHMR University, Jaipur, Rajasthan session 2016-2018.

I would like to state that I have carried out my Internship on the topic “***A Study on waiting time for patients in out-patient department.***” under the guidance of Dr. Sushma Bhatt (General Manager) at Rajiv Gandhi Cancer Institute and Research Centre, Rohini, New Delhi for the partial fulfilment for the degree of MBA in Hospital and Healthcare Administration.

This project work is my own and has not been submitted to any of the other Institute or University for the purpose of award of any degree or diploma.

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ABBREVIATIONS

S. No.	Abbreviations	Meaning
1.	CSSD	Centre sterile services department
2.	HDU	High Dependency Unit
3.	EUS	Endoscopic ultrasound
4.	EBUS	Endobronchial ultrasound
5.	IGRT	Image guided radiotherapy
6.	IMRT	Intensity modulated radiation therapy
7.	HOD	Head of department
8.	IAU	Internal assessment unit
9.	NABH	National Accreditation Board for Hospitals and Health care
10.	NABL	National Accreditation board for testing and calibration laboratories
11.	DICOM	Digital imaging and communication in medicine
12.	TPA	Third party administrator
13.	PSU	Public sector undertaking

HOSPITAL PROFILE AND OBSERVATIONAL LEARNING

INTRODUCTION

Rajiv Gandhi Cancer Institute & Research Centre is today counted amongst Asia's premier exclusive cancer centres that offer the unique advantage of cutting edge technology, put to use by renowned super specialists. This potent combination of man and machine ensures world-class cancer care to not only patients from India, but also from the neighbouring SAARC countries and others. We are fortunate to have taken care of over 1.95 Lakh patients since inception in 1996. The Institute has been accredited by NABH and NABL for its quality of services, and holds ISO 9001 and ISO 14001 certifications.

The Institute offers super specialized tertiary care services in Medical, Surgical and Radiation Oncology, streamlined into dedicated Site-Specific teams. Super Specialists at RGCIRC practice an organ specific multi-disciplinary approach to cancer diagnosis and treatment, with the Tumour Board acting as a second opinion clinic for cases that are more critical than others.

Spread over nearly 2 lakh square feet area, with a current capacity of 300 beds, RGCIRC is one of the largest tertiary cancer care centres in the continent. The Institute's outpatient services are spread on three floors with 57 consultation rooms, and well-designed Radiation Therapy areas. RGCIRC has 9 state-of-the-art well equipped modular Operation Theatres with three stage air filtration and gas scavenging systems, and 2 Minor Operation Theatres for Day Care Surgeries. The Institute has 27 bedded Surgical ICU and an 11 bedded Medical ICU. RGCIRC has a dedicated Leukaemia ward, and a separate Thyroid Ward. The Institute also boasts of an independent Bone Marrow Transplant unit that is credited with pioneering unrelated donor transplants, MUD transplants, and stem cell transplants.

RGCIRC is committed to bringing the benefits of cutting edge technology to its patients. The Institute offers best in class techniques such as whole-body robotic surgery, Intra-Operative Brachytherapy, True Beam (the next generation Image Guided Radiation Therapy), PET – MRI fusion, High Frequency Ultrasound, Tomosynthesis (first-of-its-kind revolutionary 3D mammography machine), Nucleic Acid Testing (for safest possible blood), and advanced diagnostic & imaging techniques, including PET CT, Circulating Tumour Cell testing, and Next Generation Sequencing. RGCIRC has executed strategic alliances with internationally renowned institutes such as Thomas Jefferson University. This has catapulted

RGCIRC into a global league of select hospitals that are pioneers in new approaches to treating cancer.

RGCIRC has been ranked amongst 10 Best Oncology Hospitals of India (Week – Nielsen Survey 2014) and won the prestigious award for Best Oncology Hospital in India at Healthcare Achievers' Awards 2014.

MISSION

To be the largest Cancer Care Provider in India by 2020

- Offering Comprehensive services from prevention to palliation at an affordable price.
- Based on core values of quality, ethics, compassion and respect for all.

VISION

“ To prevent and treat cancer by providing affordable oncology care of International Standards In India.”

OUR LOGO



**Rajiv Gandhi Cancer Institute
and Research Centre**

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The philosophy behind the logo of Rajiv Gandhi Cancer Institute & Research Centre, is symbolic of the Crab, representing Cancer. The Crab has been universally accepted as a symbol of Cancer – the deadly disease. Encased in a shield, with a sword piercing through it, is graphically a symbol of a dreadful disease being kept at bay with the help of a shield as self-protection and swords as the weapon to destroy the enemy.



QUALITY POLICY

We are committed to provide reliable and Internationally compatible Diagnostic and Therapeutic Services related to the field of Oncology to our patients & society at large.

We are committed to continually improve the quality of Diagnostic Services, Therapeutic Services and Environmental Performance, through upgradation and acquisition of environmentally activities on the environment, prevent pollution and comply with all applicable environmental legislation and regulation.

We shall continuously review our performance, to ensure service provisioning in humane and congenial environment by motivating, training and involving employees at all levels ***TO DO THINGS RIGHT FIRST TIME, EVERY TIME AND WITH EMPATHY.***

QUALITY CERTIFICATIONS AND ACCREDITATIONS

- NABH accreditation for hospital
- NABH accreditation for blood bank
- NABL accreditation for laboratory
- ISO 9001 Certificate for quality management system
- ISO 14001 Certificate for environment management system

FLOOR INFORMATION

OLD BUILDING

FLOOR	A BLOCK	B BLOCK
BASEMENT TWO	NA	NA
BASEMENT ONE	Laboratory, central sterile supply department, meditation room, bio repository unit.	Medical record department, administration, finance and billing, HR department, clinical research department.
GROUND FLOOR	Casualty, radiation oncology OPD, radiology including PET CT, counselling cell, homecare cell.	Kitchen, staff cafeteria, IPD pharmacy, cyto admixture unit.
FIRST FLOOR	Inpatient rooms and wards no. 101-121, minor OT	ECG, CT, MRI and nuclear medicine department.
SECOND FLOOR	In patient rooms 201-216, HDO	In patient rooms 251-260, thyroid ward, physiotherapy department.
THIRD FLOOR	PAC, operation theatres, surgical ICU, pain management clinic.	Bone marrow transplant unit, leukemia ward, medical ICU, bio engineering department.
FOURTH FLOOR	Maintenance department.	

NEW BUILDING

FLOOR	C BLOCK
BASEMENT TWO	IGRT (Radiation), purchase department, IT department, quality cell, material department, IGRT conference hall
BASEMENT ONE	Day care, molecular lab, cyto admixture unit, library.
GROUND FLOOR	Main lobby- front desk, OP cash counter, central report dispatch counter, pre admissions- counselling desk, public relations officers cabin, pharmacy, sample collection room, IAU, surgical oncology OPD, preventive oncology OPD.
FIRST FLOOR	Day care
SECOND FLOOR	IPD rooms from 2274 to 2291, Isolation room
THIRD FLOOR	IPD rooms from 2351 to 2374
FOURTH FLOOR	IPD rooms from 2451 to 2474, DMS office.

SERVICES AVAILABLE

CLINICAL SERVICES

MEDICAL ONCOLOGY

- Medical oncology (All solid tumors)
- Haemato – oncology
- Paediatric Haemato oncology
- Bone marrow transplant

SURGICAL ONCOLOGY

- Uro onco surgery
- Gynae onco surgery
- GI onco surgery
- Head and neck onco surgery
- Breast onco surgery
- Bone and soft tissue sarcoma onco surgery
- Brain and spine onco surgery
- Reconstructive surgery
- Paediatric onco surgery
- Robotic onco surgery

RADIATION ONCOLOGY

- IGRT
- IMRT
- Brachytherapy
- Nuclear medicine
- Day care
- Preventive oncology
- Home care
- Dental clinic

IMAGING SERVICES

- PET CT
- CT scan
- CT guided liver, lung biopsy
- Bone scan
- MRI
- Gamma camera
- Ultrasound
- Digital X-ray
- Fully digital mammography
- Breast tomosynthesis

- Breast biopsy
- Colour Doppler
- Trans Arterial Chemo Embolization (TACE)
- RF ablation of tumours

INVESTIGATIVE PROCEDURES

- Bronchoscopy
- Biopsy
- Colonoscopy
- Upper GI endoscopy
- Virtual bronchoscopy
- EUS
- EBUS

LABORATORY SERVICES

- Cytopathology
- Clinical pathology
- Clinical biochemistry
- Haematology
- Clinical microbiology and serology
- Histopathology and immunohistochemistry
- Molecular biology

SPECIALIZED SERVICES

- Blood bank
- Pain clinic
- Rehabilitation services
- Palliative care
- Psychological counselling

MODE OF DATA COLLECTION

Data collection involved discussions with the HODs on the managerial issues and talking to the other staff and going through the records.

Sources of Data

➤ **Primary**

- By interacting with the HODs, executives, Doctors and other employees of the hospital.
- By interacting with the patients and their attendants.
- Through direct observations.

➤ **Secondary**

- Through registered records
- Through website of the hospital
- Literature available about the hospital like magazines, pamphlets, brochures, CDs, written documents

GENERAL FINDINGS

1. FRONT OFFICE

- **First contact point** between the patients / their attendants coming to the facility.
- Gives directions to them about the locations of various departments.
- Helps in planning timely discharge a day before by inquiring about the same from the concerned consultants.
- Performs in patient and out- patient registration.
- Does appointment scheduling of the patients.
- Insurance management.
- Does registration and scheduling of preventive health check-ups.

Challenges

- Shortage of staff.
- Huge rush during peak hours such as morning.

2. IN PATIENT DEPARTMENT

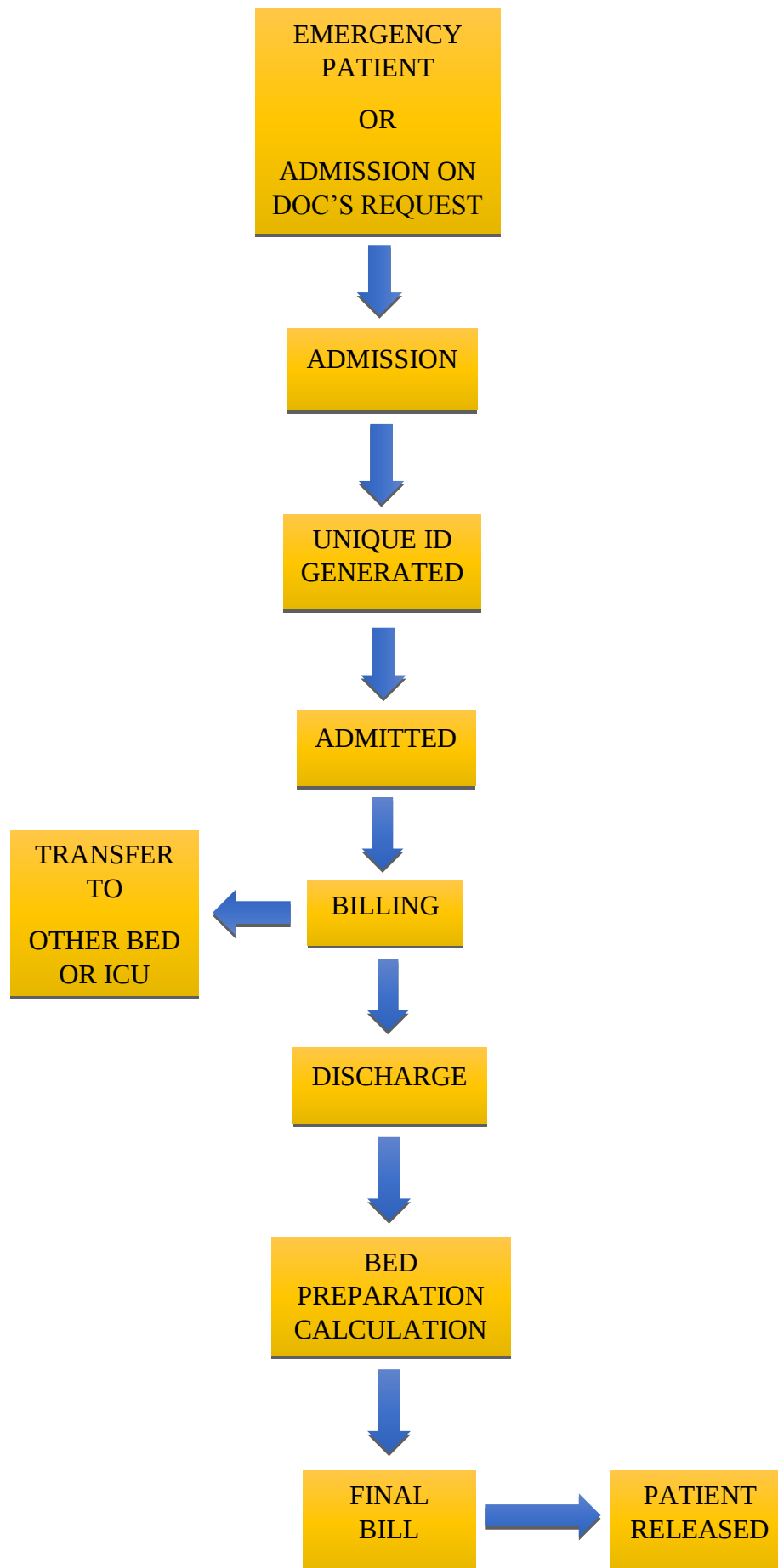
ADMISSION PROCEDURE

- Admissions may be in two ways
- Through emergency department
- Through OPD
- If doctor decides patient requires an Inpatient treatment, patient will then be issued an admission slip with the details of the kind of treatment and expected duration of stay of the patient.
- Doctor also informs patient about the estimated patient on the given admission

- Patient then proceed to the admission counter situated on the ground floor of new building. Admission staff allots the room / bed according to the patient's requirements, if available.

- IPD is distributed over four floors (1st – 4th) in the old and new building of Rajiv Gandhi Cancer Institute including a total number of 302 beds.
- Every bed is provided with oxygen supply, suction facility and nurse call facility.
- The types of rooms available at RGCI & RC:
 - Deluxe suite
 - Deluxe room
 - Private room
 - Semi private deluxe(2 bed)
 - Semi private (4 bed)
 - Economy special
 - General ward
- Every floor has a central nursing station with
 - Information Board covering:
 - Designation & Contact numbers of
 - Duty doctor
 - Administration Staff
 - Ward Secretary
 - Nurses' names with shift timing and designation(8-10 nurses per shift)
 - Crash Cart parked next to the nursing station
 - Computer on wheels (COW) - 2
 - Cupboards with forms- down time form, investigation track sheet, blood request form, PAC sheet, informed consent, inventory files and registers

INPATIENT WORKFLOW



3. DEPARTMENT OF LAB SERVICES

The department of Laboratory Services plays a crucial role in supporting the RGCIRC Mission of patient care by providing high-quality services for diagnosis and management of cancer patients. The first and foremost step to a good clinical practice in cancer care is accurate and timely diagnosis

which in turn has tremendous therapeutic implications. Our team of highly trained Doctors, medical technologists and clerical personnel, assure rapid TAT and efficient reporting of test results.

The Laboratory Services is further organized into following Departments :

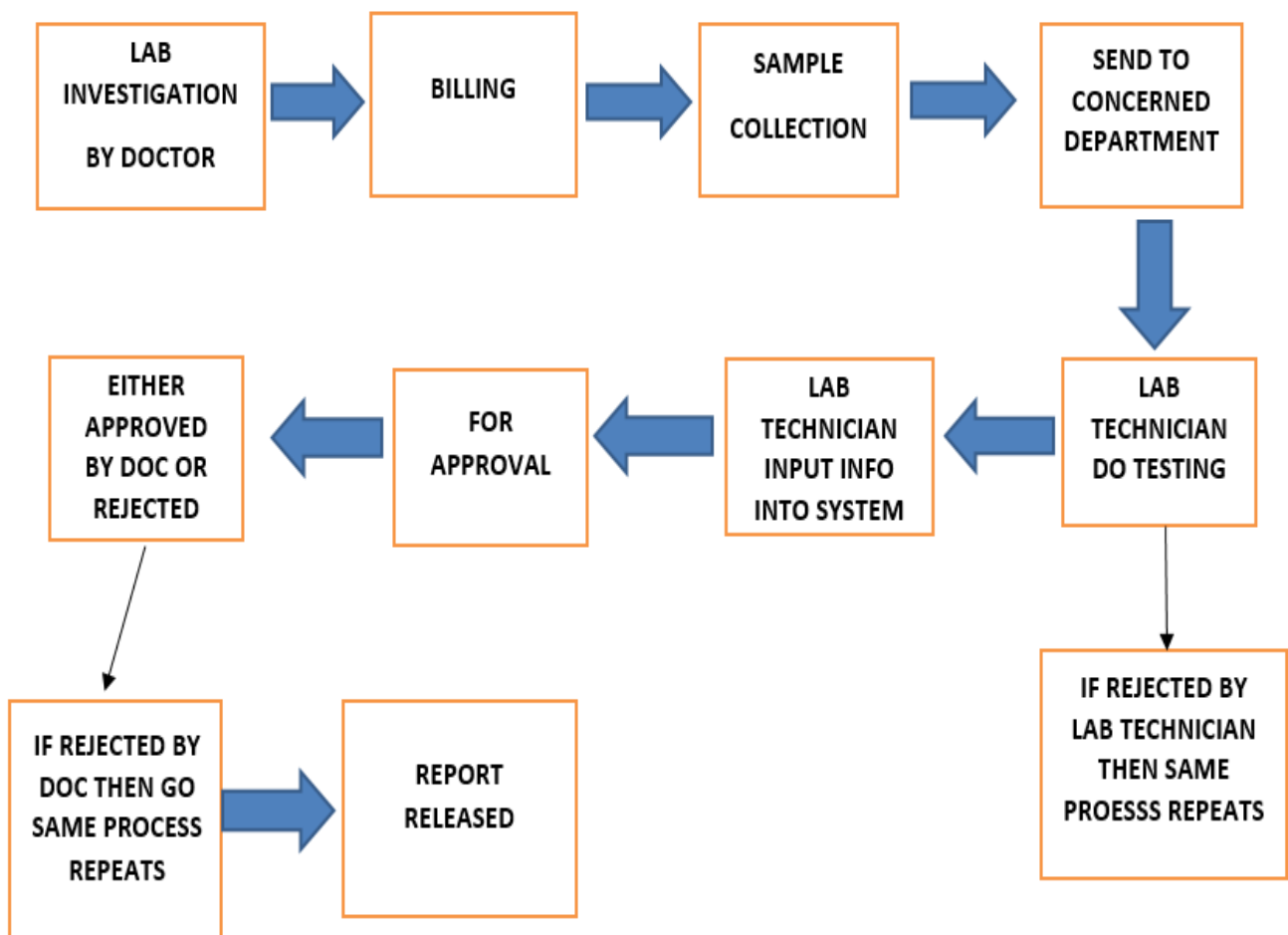
1. Histopathology and Cytopathology.
2. Haematology.
3. Microbiology.
4. Transfusion Services.
5. Biochemistry.

4. CSSD

The department provides clean and sterile supplies which help in reduction of infection and improving the quality of care. The department provides infection control by educating staff on biomedical waste management, by reviewing surveillance data and identifying areas of intervention, by identifying patients or staff with communicable/ potentially communicable infections and institute appropriate measures in each cases.

5. BIOMEDICAL ENGINEERING

LAB WORKFLOW



The department installs commission and maintains all the medical equipment in an efficient and cost effective way and makes technical appraisal and recommendation for purchase of new equipment. The department provides inputs to commercial department about new/renewal of contract with equipment supplier including annual maintenance/ comprehensive maintenance contracts.

6. FINANCE

The department provides accurate relevant and timely financial information necessary in making right business plan and decisions. The finance department looks into business building insights, areas for lowering cost and improving profitability, updating of bills on daily basis for IPD patients. The billing staff has overall responsibility for coordination of various functions like pharmacy, wards etc. and daily basis report for admission and provide the necessary solution to daily problems.

7. INFORMATION TECHNOLOGY

The department provides IT value to end users with respect to their day to day function. The department provide services to various departments for IT infrastructure, hardware and network, antivirus services, internet services.

8. FOOD AND BEVERAGE

The department provides food and beverages to the esteemed customers and staff as well. The department performs daily audits of the store and kitchen areas, take rounds of the entire service area with and after the service timing, monitoring of services and sales at staff cafeteria and visitor's cafeteria, executive/doctors dining hall.

9. PHARMACY

The goal of the pharmacy is to procure and provide medicines and surgical items to the patient. The pharmacy serves various areas of hospital like day care, ICU's, OT's, IPD's and biomedical. The department services include procurement and providing medicines to the patient.

The department also delivers medicines to the ward like day care and collects the billing amount from the attendant there itself.

10. HOUSEKEEPING

To achieve defect free room with 100% hygiene and cleanliness to maximise patient satisfaction with minimum cost. The department performs activities like cleaning, providing room amenities and pest controlling and waste disposal.

11. QUALITY DEPARTMENT

This department functions to maintain and perk up the standards, Quality Assurances (QA), the activity of providing evidence needed to establish quality in work and the activities that require good quality are been performed effectively. All those planned or systematic actions necessary to provide enough confidence that a product or service will satisfy the given requirements for quality.

12. HUMAN RESOURCE DEPARTMENT

To ensure availability and retention of quality talent to meet organizations goals and objectives. Overall growth and development of employee's orientation and functional training. The department looks into matters like attendance and leave management, appraisal and promotion process, medical benefits, employee welfare programmes, payoff management, grievance handling, medical by laws.

13. MEDICAL RECORD

Medical record department is the custodian of all the discharged/ expired health record charts. The MRD staff ensures confidentiality, preservation, storage and retention of the documents.

The department deals with record collection, codification, storage, analytical evaluation and retrieval of records if needed.

14. RADIOLOGY DEPARTMENT

It is a well-equipped department with state-of-the-art technology which compares with the best in the world. A fully functional PACS with secure private cloud storage in a complete digital environment for all our diagnostic imaging services makes it a unique facility. Our turnaround time for all reports is less than 24 hours. Our principal strengths are our expertise in dealing with oncology patients and optimized imaging protocols conforming to international practice. Our practice of crisp clinically oriented reports helps our clinicians in the right decision making. Our staff is involved in carrying out most bed side interventional procedures. Our contribution in patient management through active participation in multi-specialty clinics and tumour board meetings sets us apart.

Services Available

- Comprehensive review of all imaging studies even if not performed in house. For our patients we scan their outside imaging studies and integrate with in house studies on PACS under one unique identity (CR number)
- X rays (Computed Radiography) and special procedures which are stored on PACS and cloud.
- MRI with multiple imaging protocols relevant to oncology
- Multiphase CT Scans, CT Angiography and Virtual Endoscopy
- Hepatic imaging with segmentation and volume estimation for surgical planning.
- CT or Ultrasound Guided biopsy / FNAC / pleural and ascites aspirations/catheter drainage and other Interventional procedures
- PET CT scans and PET guided biopsies
- Target delineation and fiducial placement to optimize IGRT and IMRT outcomes
- Therapeutic embolization and TACE, biliary drainage procedures
- Target delineation and fiducially placement to optimize IGRT and IMRT outcomes
- Ablation and celiac plexus blocks for pain management
- Colour Doppler, Trans rectal Ultrasound (TRUS) and 12 core prostate biopsy
- Full field digital mammography, Digital breast tomosynthesis, CAD, Stereotactic Biopsy/FNAC of breast / wire localization of non-palpable lesions in the breast
- RF ablation to treat tumours in liver, lung, kidney, bone and soft tissue
- Treatment response evaluation assessment (RECIST)
- Bone densitometry (Dexa scan)

SPECIALITIES OF RGCI & RC

1. SURGICAL ONCOLOGY

The Department of Surgical Oncology is a fast evolving speciality at RGCI & RC. The Department consists of following units:

- Head & Neck Services
- Breast & Thoracic Services

- Orthopaedic Oncology Services
- Uro Gynae Oncology Services
- G I Oncology Services
- Neuro Surgical Oncology Services
- Reconstructive Services

Surgical Oncologist can provide unique surgical expertise in surgical cases unfamiliar to general surgeons. The Surgical Oncology Department aims at the following:

- Cure or Palliate and improve quality of life emphasizing on multimodal treatment
- Practice evidence based medicine
- To achieve minimal morbidity and near zero mortality which is acceptable by any International norms
- Good preoperative preparation, careful preoperative monitoring and postoperative care

The faculty of Surgical Oncology consists of 8 Senior Consultants in various subspecialties, 10 Consultants, Clinical Assistants in addition to Residents and DNB students.

Surgical Department has 8 major Operation Theatres, 3 Minor OT's, 28 bedded Postop Ward and Extensive Intraoperative and Postop monitoring facilities round the clock. Post-Operative care is provided by doctors and expert nurses.

2. RADIATION ONCOLOGY

Radiation Oncology refers to the treatment of cancer patients using radiation, which could be X-rays or gamma rays or electrons .Rajiv Gandhi Cancer Institute & research centre with its tradition of quality and excellence offers comprehensive and modern radiotherapy services to the patients.

The hospital's radiation oncology department is located on the ground floor, in the A block of the hospital and 2nd basement in the C block .the department is equipped with linear accelerators, stimulators, high dose rate remote after loading brachytherapy system, dedicated treatment planning computers and mould room to fabricate lead shields and templates in house. The department has been intricately networked to CT scan and MRI with DICOM image transfer capability that makes it one of the best radiation oncology hospital in India.

Intensity Modulated Radiation Therapy (IMRT)

Rajiv Gandhi Cancer Institute & Research Centre boasts of being the first cancer centre in the country to put IMRT into clinical practice.

Intensity Modulated Radiation Therapy (IMRT) is an approach to radiation therapy that delivers a high, conformal dose to the tumor while restricting the exposure to surrounding normal tissue.

Image Guided Radiation Therapy (IGRT)

The Department is equipped with Image Guided Radiation Therapy (IGRT) equipment - ARTISTE from Siemens. IGRT combines the traditional radiation treatment with a simultaneous cone beam CT scan to allow for greater precision and accuracy when targeting and treating tumors.

3. MEDICAL ONCOLOGY

Department of **Medical Oncology** at Rajiv Gandhi Cancer Institute & Research Centre offers state-of-the-art treatment modalities, including autologous and allogeneic Bone Marrow Transplant. There is a substantial patient workload, which is taken care by highly qualified and experienced Medical Oncologists, Pediatric Oncologists and Hematologist, who works full time for this institute. Facilities are available to undertake outpatients' Chemotherapy in specialized day care units. The hospital's medical oncology department includes specially trained nursing staff that assists in administration of Chemotherapy, in both Day Care as well as Inpatients. Chemotherapy Drug mixing is done at a separately designated area, under laminar air flow, to ensure patient & staff safety to prevent health hazards. In order to make administration of chemotherapy safe and more patient friendly, use of central catheters and ports is a routine in the department.

4. PEDIATRIC HEMATOLOGY ONCOLOGY

The Department of Pediatric Cancer treatment and Oncology at RGCRI & RC, is unique in India, as it offers comprehensive Oncology Care to all children up to the age of 18 years. It is a place, where doctors send some of their most challenging and sick patients. The Department has a dedicated team of experts in the field of Pediatric Hematology / Oncology. The team constituted by experienced **Pediatric Oncologists**, Hematologist, Pediatric Oncosurgeon, Radiation Oncologist, Pediatric Oncology Residents and Nurses, Child Psychologist and Playroom Teachers' who works hard to ensure, that best care is delivered to every child.

Children with all types of Hematological and Solid Organ Malignancy receive specialized Oncology services here. The various type of Cancers treated in the Department includes Leukemia (ALL, AML, CML), Lymphomas (non-hodgkin's and hodgkin's), as well as all Pediatric solid Tumors like Neuroblastoma, Wilms Tumor, Bone and Soft Tissue Sarcoma, Brain Tumor, Hepatoblastoma, Testicular and Ovarian Tumors etc. Patients with different Hematologic problems like severe Aplastic Anaemia, MDS, Hemolytic Anaemia's, Chronic ITP, etc. are also managed.

STUDY ON WAITING
TIME IN THE OUT-PATIENT DEPARTMENT
AT
**Rajiv Gandhi Cancer Institute and
Research Centre ROHINI, NEW DELHI**

INTRODUCTION

OUT PATIENT DEPARTMENT

An **outpatient department** or **outpatient clinic** is the part of a hospital designed for the treatment of outpatients, people with health problems who visit the hospital for diagnosis or treatment, but do not at this time require a bed or to be admitted for overnight care. Modern outpatient departments offer a wide range of treatment services, diagnostic tests and minor surgical procedures

The outpatient clinic of a hospital, also called an outpatient department provides diagnosis and care for patients that do not need to stay overnight. This is distinct from clinics independent of hospitals, almost all of which are designed mostly or exclusively for outpatient care and may also be called outpatient clinics.

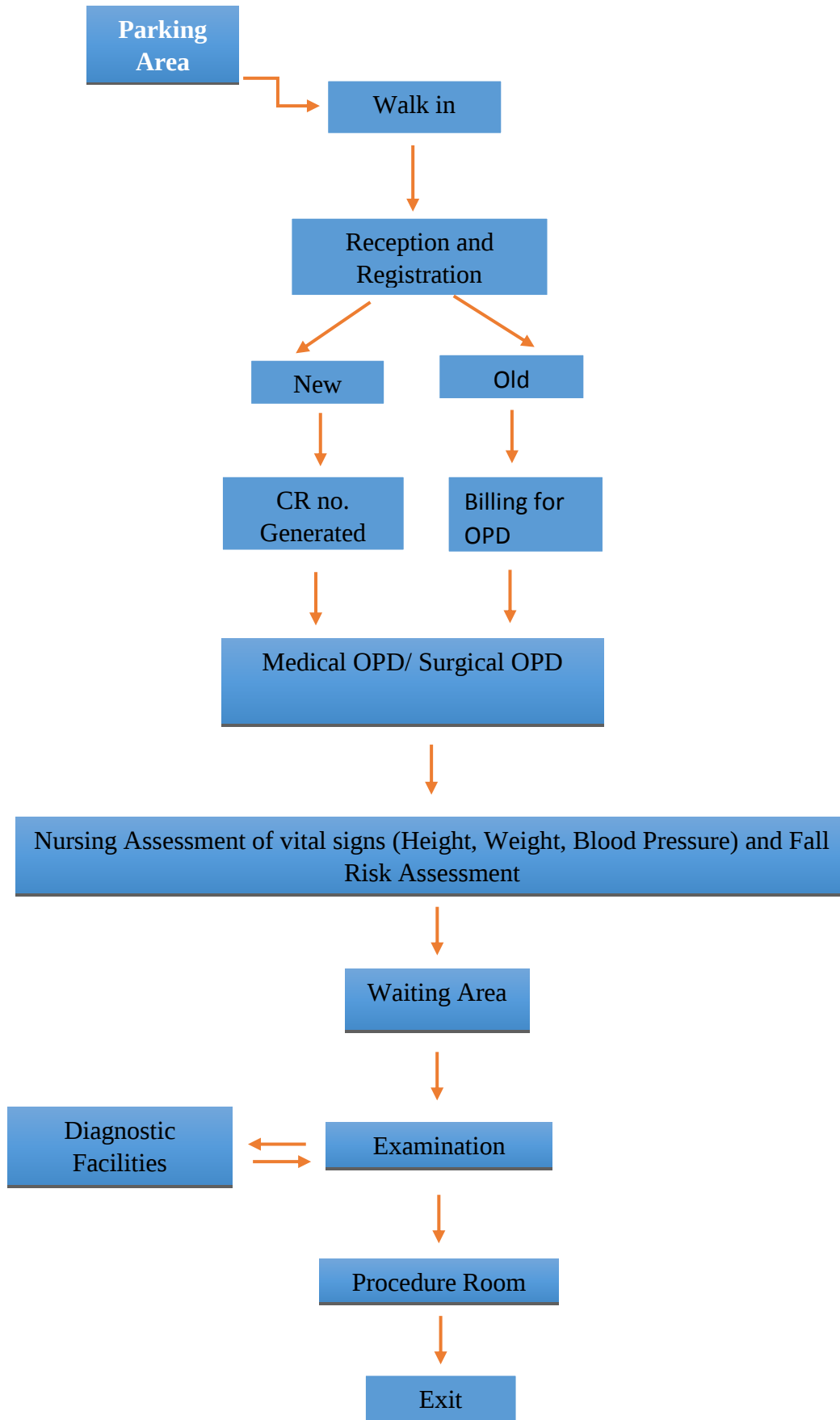
The outpatient department is an important part of the overall running of the hospital. It is normally integrated with the in-patient services and manned by consultant physicians and surgeons who also attend inpatients in the wards. Many patients are examined and given treatment as outpatients before being admitted to the hospital at a later date as inpatients. When discharged, they may attend the outpatient clinic for follow-up treatment.

The outpatient department provides various services like wheelchairs and stretchers are available for non-ambulatory patients. Patients will register at a reception desk and there is seating for them while they wait for their appointments. Each doctor will have a consulting room and there may be smaller waiting areas near these.

GENERAL FINDINGS

- Rajiv Gandhi Cancer Institute has two OPD's – Medical OPD and Surgical OPD.
- Each OPD has a procedure room and its own front desk.
- In case of a new patient registration is done through a valid PARAS system and a CR no. is created and a smart/cash card from cash count is given to the patient.
- For all new patients post registration patient is directed to IAU at ground floor where doctors and nursing team takes medical history, do physical examination and check vitals etc thereby reducing the workload of the senior doctors.
- After Initial assessment patient is directed to the concerned OPD i.e., medical OPD or surgical OPD where super specialist doctor do further assessment of patients condition and accordingly advice investigation, treatment on OPD or IPD basis as may be the case.

- In case of old patient, for revisit patient is required to take an appointment for the particular doctor at the appointment desk.



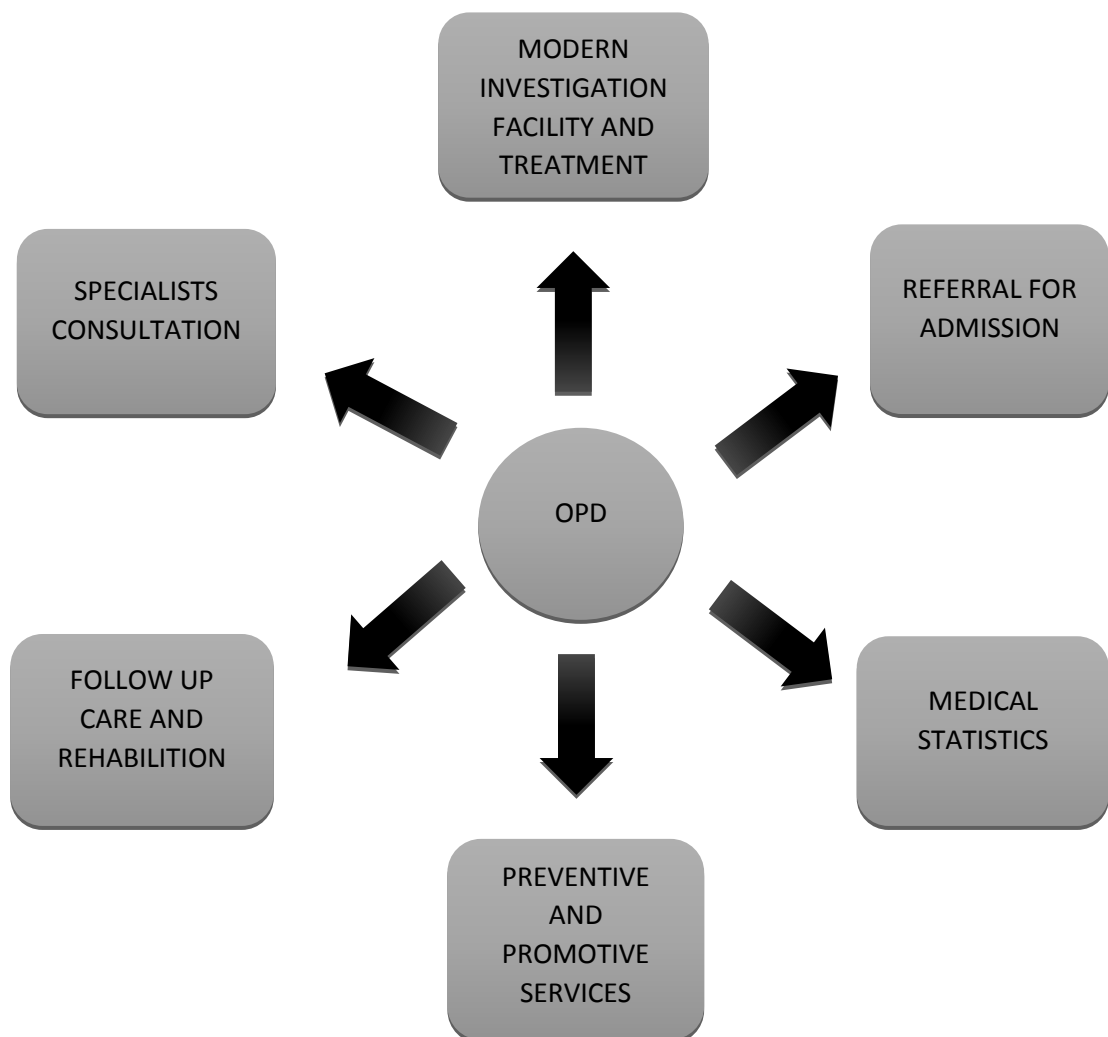
OUT PATIENT SERVICES

1. Ambulatory patient care service.
2. One of the first point of contact between hospital staff and patient.
3. Reflects the human relation skills and public functions of the hospital for the patients, relatives and visitors.

OBJECTIVE:

1. To provide adequate quality of care.
2. All modern technique for investigation and treatment.
3. Creating facilities for total patient satisfaction.
4. Good public relation.

ROLES AND FUNCTIONS



REVIEW OF LITERATURE

Evidence of poor and sub-par quality among hospitals has been well documented in recent years.⁶ In response, the federal government, foundations, and the private sector have funded research to identify best clinical practices and develop strategies to reduce medical errors and improve health outcomes. A major element of this work has involved defining and measuring quality and developing indicators of performance to compare hospitals across the country.

Am J Hosp Pharm. 1984

The cost of various options for reducing patient waiting time in an outpatient pharmacy was studied through computer simulation. The time required to complete prescription filling tasks was recorded for a baseline of five pharmacy employees: technicians A, B, and C, a typist, and a pharmacist. A fixed factorial design of 12 configurations was used in which the number of pharmacy employees was varied (one, two, or three technician As; one or two typists; and one or two technician Bs). Patient waiting time for each configuration was determined through computer simulation. Pharmacy employee salaries were used to calculate the relative cost of six of the configurations that were predicted to reduce waiting time to less than 10 minutes. Configurations with additional technician Bs or typists, or both, exhibited reductions in total waiting time of comparable magnitude. One of these configurations was identified as the least expensive per daily hours saved. Without disturbing the operation of the pharmacy, computer simulation was found useful in identifying the least expensive method of reducing patient waiting time in an outpatient pharmacy.

This report focuses on the dynamics of hospital performance: how hospitals achieve and sustain improvements over time. Case studies of four hospitals that made substantial improvements reveal a pattern: 1) a trigger such as a crisis or new leader serves as a “wake up call” that prompts the hospital to make 2) organizational and structural changes such as multidisciplinary teams, quality-related committees, and technology investments, which facilitate 3) a systematic problem-identification and problem-solving process, resulting in 4) new treatment protocols and practices, which in turn result in 5) improved outcomes. Success strengthens commitment to quality improvement and turns this temporal pattern into an on-going cycle. The entire process reflects the establishment, growth, and reinforcement of a culture of quality.

Jack A. Meyer, Ph.D., is a health economist with more than 20 years of experience leading health care research and consulting projects. He has directed in-depth health research projects for numerous foundations and conducted policy analysis and strategic planning for government agencies and clients in the business community. Dr. Meyer specializes in developing and evaluating proposals to cover the uninsured at both the national and state levels. He has also focused on initiatives of both private employer groups and government to improve quality and patient safety. Prior to joining HMA, Dr. Meyer was the president of the Economic and Social Research Institute

Sharon Silow-Carroll, M.B.A., M.S.W., is a health policy analyst with nearly 20 years of experience in health care research. She has specialized in health system reforms at the local, state, and national levels; strategies by hospitals to improve quality and patient centred care; public–private partnerships to improve the performance of the health care system; and efforts to meet the needs of underserved populations. Prior to joining Health Management Associates (HMA) as a principal, she was senior vice president at the Economic and Social Research Institute (ESRI), where she directed and conducted research studies and authored numerous reports and articles on a range of health care issues.

Following the Institute of Medicine (IOM) reports, *To Err Is Human* and *Crossing the Quality Chasm*, several studies were conducted to ascertain how quality within the hospital setting could be appropriately measured. Perhaps the most far-reaching of these studies was the “High Performers Special Study” (HPSS), supported by the Centres for Medicare and

Medicaid Services (CMS).

The goal of the HPSS was to develop and implement a methodology for defining quality performance and identifying high performing hospitals and the practices and characteristics that set them apart from other hospitals. Using quantitative performance data on acute myocardial infarction (AMI), congestive heart failure (CHF), and pneumonia, the researchers identified high performing and non-high-performing hospitals throughout the nation. Based on in-depth interviews with 110 key informants at six matched pairs of high and non-high performers, four common quality improvement models of high-performing hospitals were differentiated according to various aspects of culture, technology, responsibilities, priorities, and targets. Within these four models, the researchers further identified specific basic and high-leverage “change ideas.” In addition to developing methodologies for scoring hospitals on their performance and levels of leadership effort and commitment to quality improvement, the authors found that achieving high levels of quality in hospital performance requires an approach that actively creates links between the quality improvement dimensions of responsibility/involvement/reward; communications; quality management strategies; clinical management strategies; and monitoring.

Factors behind Disparities in Quality

Once major disparities in hospital quality were acknowledged, many researchers and clinicians have tried to understand why some institutions perform better than others. They have shed some light on the role played by a number of factors, or “ingredients.” For example, in a prior study we conducted for The Commonwealth Fund, we found that top performing hospitals are distinguished from others in the following ways:

- They develop the right culture for quality to flourish;
- They attract and retain the right people to promote quality;
- They devise and update the right in-house processes for quality improvement; and
- They give staff the right tools to do the job.

A number of hospitals and health systems have put such practices in place, often supported by information technology to assist physicians and patients. Others have instituted an explicit quality-related mission and aggressive quality-related targets; emphasized selective hiring, credentialing, and re-credentialing; instituted an iterative process of discovery followed by corrective actions and accountability; and invested in tools to abstract medical records, analyse data, and facilitate the improvement process.

The outpatient services often are the first point of contact with a hospital. It is an extremely busy area as all the patients have to pass through this area. It is important it is well managed, as the first impressions get shaped during this process.

This issue of Site news on the theme "eye care outpatient management" provides an overview of the various outpatient examination processes that are there for an eye hospital both at primary and secondary level. The next section provides an overview of e-resources to help plan the layout and the resource requirement of the outpatient department. Some of the major management challenges in outpatient management are waiting time, communication, employee behaviour for promoting service excellence, ambience for creating healing environment, and health education. Each of this is looked at to get different perspectives on how to address it in a patient friendly way. Another important aspect of OPD management is leveraging the use of information technology.

ZHU Zhecheng; HENG Bee in 2002:

This paper is focused on the factors causing long patient waiting time/clinic overtime in outpatient clinics and how to mitigate them using discrete event simulation. A two-week period of data collection is conducted in an outpatient clinic of a Singapore government hospital. Detailed time study from patient arrival to patient departure is conducted, and the possible factors causing long patient waiting time/clinic overtime are discussed. A discrete simulation model is constructed to illustrate how to improve the clinic performance by mitigating the detected factors. Simulation and implementation results show that significant improvement is achieved if the factors are well addressed. An outpatient clinic is known as a private or public healthcare facility which is devoted to diagnoses and treatments of outpatients [1]. The types and functions of outpatient clinics cover different specialties and vary from country to country [2]. Study in this paper is focused on outpatient clinics in Singapore, which is known as specialist outpatient clinics (SOC). SOC in Singapore are clinics associated with hospitals and medical centres. Each SOC is specialized on one type of diseases, e.g., orthopaedic clinic, ear, nose and throat clinic, eye clinic, etc. An SOC mainly accepts patients referred by various sources with appointments. SOC staffs arrange an appointment for each appointment request by picking up a free slot of a specific specialist through the appointment management system.

Recent years SOC's are facing increasing pressure to handle more appointment requests than before due to the aging and growing population [3]. The lead time between an appointment request and the actual visit tends to be longer because the growth of SOC capacity cannot catch up with the increasing demand. In order to mitigate the increasing

appointment lead time, more slots are arranged in each operating session to maintain a constant appointment lead time. However, the rising workload per session causes other problems. The overloaded clinic becomes more congested and patients have to wait longer for their consultations. There is also higher chance of overrunning session time. The increasing waiting time and overtime have negative impact on patient satisfaction and staff morale.

The Out Patient Department (OPD) provides clinical services to patients without the need to stay overnight. Patients who need medical or surgical care but are not in acute emergency generally attend the OPD. In comparison to indoor care the outpatient care is relatively more convenient to patients and is less expensive. The chances of hospital-acquired infections are less. Shortage of hospital beds in the country also encourages outpatient services to be utilized optimally.

Among all departments in a hospital, the OPD caters to maximum number of patients. It is generally the first point of contact of patients and their attendants with a hospital, and thus creates first impression about the hospital services. Therefore, it has wider implications on the reputation and brand image of the hospital. Although OPD is not a major profit centre of hospitals, it generates revenues indirectly through diagnostic services and admissions.

Scope of services

Clinical consultations are provided to patients in OPD. The consultations include history taking, clinical examination, diagnosing and providing prescription to patients. The support of diagnostic services like laboratories, radiology and cardiac lab etc. might be required to confirm the diagnosis. Minor surgeries or procedures are also carried out in the OPD.

The patients who need indoor care are advised admissions through the OPD and thus OPD also acts as a filter for indoor admissions.

Besides the curative services, certain preventive services like immunization; promotive services like dietary counselling and rehabilitative services like physiotherapy and occupation therapy are also provided in OPD of many hospitals. The OPD provides excellent opportunity for providing health education to the clients.

Modern concept of Ambulatory Services encompasses wider range of services that also include therapeutic services like dialysis, blood transfusion, chemotherapy, daycare surgeries and diagnostic services like angiography etc.

Workflow

The patients who attend the OPD may be new (who have come for the first time) or repeat patients. Majority of them pay in cash for the services whereas some corporate or insured patients avail cashless services.

Health care providers are under a great deal of pressure to reduce costs and improve quality of services. In recent years, given the greater emphasis on preventive medicine and shorter lengths of stay, outpatient services are becoming an essential component of health care. Hospitals that cannot make their outpatient services more efficient and cost-effective find themselves in financially unviable positions in this fast-growing competitive industry.

Over the years, population has increased several folds and the greater demand and expectations of patients from hospitals are far more than what is currently being perceived. As a result, it has become a constant rat-race to make our current systems faster. This brings about questions such as how do we measure such improvements? Is there a standard procedure?

Today lot of research is taking place to make systems that provide critical life support to work faster. For example, the NHS has introduced performance specific targets which demands 98% of the patients enter an accident and emergency service unit, to be treated in less than 4 hours (response time).

Now the challenge is how to achieve such targets. The first thing that comes into mind is to increase the number of doctors and paramedics and the speed of the equipments in Hospitals. This would be possible if one has unlimited resources but, since this isn't feasible in most of the cases, we would have to look at alternatives. In essence, the hospital could vary their limited number of staff at different departments according to the arrival rate and see what happens to the overall process time. However, this will prove to be time consuming and very expensive for the hospital and hence isn't feasible.

This motivates to find appropriate models that would help us to simulate and predict the behaviour of an OPD. Various studies such as simulations, statistical modelling etc have been done in this area with all of them broadly based upon queuing theory. Since its inception by A.K Erlang in 1909, this has been the basis for modelling many different systems. If modelled accurately, not only will such a model give managers an insight into optimizing their resources, but will also show them which departments are bottlenecks. The problem of waiting is recognized as one of the major challenges of many hospitals. This problem limits hospitals from serving population who are mostly busy and want to spend their valuable time productively. In an eye hospital where this study was carried out approximately it takes about 1 hour and thirty minutes to serve a patient.

Many research works have been done to address the long patient waiting time/clinic overtime by proposing various appointment scheduling schemes to better utilize the session time. As early as the 1950s, [4] proposed an appointment rule known as the Bailey's rule. The basis of Bailey's rule is to book two appointments at the beginning of a session, which is known as initial block. Successive appointments are then booked one by one at a fixed interval of mean consult time. Experiments results showed that such an appointment schedule effectively utilized the session time. Similar rules were proposed in. Other than booking one patient in one time slot, some literature proposed the idea of booking multiple patients in one time slot, proposed a rule which booked two patients in each time slot and Argued that it was

better to book different number of patients in different time slots. Some literature also proposed rules with different intervals between two successive time slots. One approach is to assign different intervals based on patient types. For instance, it is a common practice to assign different intervals for new patients and follow-up patients. Another approach is to adjust the intervals according to different time of the session. [11] Pointed out that it was helpful to arrange a longer interval at the latter part of the session compared to the early part of the session, pointed out that the intervals should follow an increase then decrease manner.

A more comprehensive review of various appointment rules can be found.

One problem of above mentioned research works is that most of the proposed appointment schedules are applicable to simplified clinic scenarios. Most appointment rules treat SOC as a production line. Uncertainties considered in the appointment schedules usually include no-show appointment, late appointment, etc. However, SOC itself is a more complex system with lots of uncertainties, which should not be ignored.

For instance, inefficiency may incur during the clinic session and cause extra patient waiting time/clinic overtime. By ignoring the additional uncertainties, the proposed appointment schedules are unlikely to perform well in actual practice. Simulation is widely applied to simulate the complexity and uncertainties of outpatient clinic and to test the performance of different process improvement techniques applied simulation models in queue management in outpatient clinics. Developed a simulation model to test the efficiency of different appointment schedules developed a detailed simulation model of an outpatient department. Various appointment schedules were examined to reduce patient waiting time, studied the effects of patient and consultant punctuality on an outpatient clinic using a simulation model. [19] compared different appointment schedules through simulation to minimize patient waiting time and clinic idle time in an outpatient clinic. Conclusion was drawn from the simulation results that scheduling appointments with more variation toward the end of the schedule helped reduce both terms.

In this paper, actual clinic session operating data is collected and detailed analysis is conducted to detect factors and uncertainties causing long patient waiting time/clinic overtime. A discrete event simulation model is constructed to show how the clinic performance would improve if the detected factors were addressed well. New appointment schedules are then implemented in the SOC by removing the detected factors. The implementation results show that new appointment schedules significantly outperform the original ones.

The rest of this paper is organized as follows: Workflow of an SOC and method of data collection are given. Then detailed analysis and discussion are given to detect factors causing long patient waiting time/clinic overtime. Discrete event simulation model is constructed and implementation results are analysed in the following section.

Investigates the increased waiting time costs imposed on society due to inappropriate use of the emergency department by patients seeking non-emergency or primary care. Proposes a simple economic model to illustrate the effect of this misuse at a public or not-for-profit hospital, provides evidence that non-emergency patients contribute to lengthy delays in the ER for all classes of patients, proposes a priority queuing model to reduce average waiting times.

C A Stone, J H Palmer, P J Saxby, and V S Devaraj in 2000:

Outpatient non-attendance is a common source of inefficiency in a health service, wasting time and resources and potentially lengthening waiting lists. A prospective audit of plastic surgery outpatient clinics was conducted during the six months from January to June 1997, to determine the clinical and demographic profile of non-attenders. Of 6095 appointments 16% were not kept. Using the demographic information, we changed our follow-up guidelines to reflect risk factors for multiple non-attendances, and a self-referral clinic was introduced to replace routine follow-up for high risk non-attenders. After these changes, a second audit in the same six months of 1998 revealed a non-attendance rate of 11%--i.e. 30% lower than before. Many follow-up appointments are sent inappropriately to patients who do not want further attention. This study, indicating how risk factor analysis can identify a group of patients who are unlikely to attend again after one missed appointment, may be a useful model for the reduction of outpatient non-attendance in other specialties.

According Norman T.J. Bailey:

An investigation, based on the use of random numbers, has been made into the kind of queuing process occurring in hospital out-patient departments. Special attention has been paid to the patients' waiting time and also to the time which a consultant may waste waiting for the next patient. As compared with many appointment systems at present in use, it is concluded that by suitable choice of the system to be adopted a substantial amount of the patients' waiting time may be eliminated without appreciably affecting the consultant. A recommended procedure is to give patients appointments at regular intervals, each equal to the average consultation time; the consultant commencing work when the second patient arrives. The effect of variations in the appointment interval, the number of patients attending the clinics, and the distribution of queue-size are discussed. The precision of the results obtained is also considered.

Fenghueih Huarng, Mong Hou Lee, (1996):

Overwork and overcrowding in some periods was an important issue for the out-patient department of a local hospital in Chia-Yi in Taiwan. The hospital administrators wanted to manage the patient flow effectively, describes a study which focused on the utilization of doctors and staff in the out-patient department, the time spent in the hospital by an outpatient, and the length of the out-patient queue. Explains how a computer simulation model was developed to study how changes in the appointment system, staffing policies and service units would affect the observed bottleneck. The results show that the waiting time was greatly

reduced and the workload of the doctor was also reduced to a reasonable rate in the overwork and overcrowding periods.

RATIONALE

This study is to identify reasons for longer waiting time in OPD and to give suggestions to reduce waiting time in OPD.

RESEARCH QUESTION

- a) What are the main reasons for longer waiting time in OPD of RGCI & RC?
- b) What can be the solutions to overcome the waiting time in OPD?

OBJECTIVES

- To determine the flow of patient and the average time spent in OPD in RGCI & RC.
- To identify the factors those are responsible for high waiting time in OPD in RGCI & RC.
- To recommend appropriate suggestions to optimize the waiting time in OPD in RGCI & RC.

RESEARCH METHODOLOGY

STUDY DESIGN: Observational and Analytical.

SAMPLING: A convenience Non- Probability Sampling technique

SAMPLE SIZE: 100 patients in day care.

STUDY POPULATION: OPD Patients of RGCI & RC.

DURATION OF STUDY: 8 weeks

DATA COLLECTION

TYPE OF DATA: Quantitative.

TOOL: Survey in the form of questionnaire

SOURCES OF DATA:

- Primary data: Questionnaire
- Secondary data: From PARAS

METHOD USED TO PRESENT DATA:

Data Analysis & Interpretation – Classification & tabulation transforms the raw data collected through questionnaire in to useful information by organizing and compiling the bits of data contained in each questionnaire i.e., observation and responses are converted in to understandable and orderly statistics are used to organize and analyse the data:

- Simple tabulation of data using tally marks.
- Calculating the percentage of the responses.
- Formula used = (name of responses / total responses) * 100

Graphical analysis by means of pie charts bar graphs etc.

ANALYSIS AND INTERPRETATION

Keeping in mind the objectives of the study, the surveys were being done & following interpretation were being drawn:

Evaluation:-

Keeping this point in view and to fulfil the evaluation variants of which may form the basis for objectives of the studies an attempt has been made to segment the various respondents on the basis of some aspects collected from them through questionnaire. There are depicted through tables and graphs.

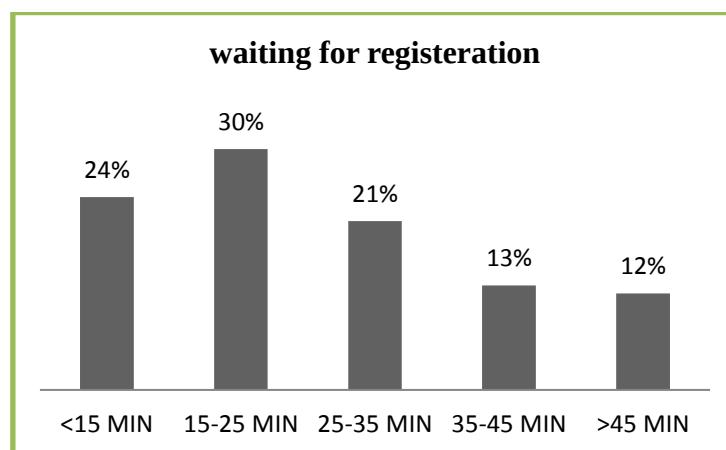
The copy of questionnaire administered is enclosed and the sample size was 100 respondents are enclosed at the end of this project. All the calculations and numerical interpretations are for 100%.

1) Waiting time spent in reception for registration:

Table 1.1 Distribution of Patient view on Waiting Time spent in reception for registration:

CRITERIA	FREQUENCY	PERCENTAGE
<15 min.	24	24%
15-25 min.	30	30%
25-35 min.	21	21%
35-45 min.	13	13%
>45 min.	12	12%

Graph 1.1 Distribution of Patient view on Waiting Time spent in reception for registration:



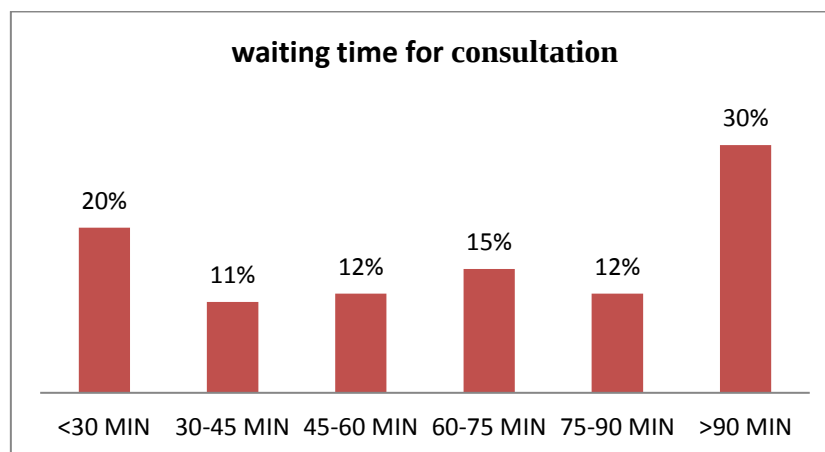
It is evident from the above table that the maximum time spent by the patients in the reception for registration is between 0 to 35 minutes that is quite manageable. Out of 100 patients, 24% patients had to wait for less than 15min, 30% waited for 15-25 min, 21% had to wait for 25-35 min. There are those patients too who had to wait for more than 35 minutes, 13% waited for 35-45 min and 12% of patients had to wait for more than 45 min in the reception for registration.

2) Waiting time for consultation:

Table 1.2 Distribution of Patient view on Waiting Time spent in OPD for Consultation:

CRITERIA	FREQUENCY	PERCENTAGE
<30 min.	20	20%
30-45 min.	11	11%
45-60 min.	12	12%
1-1:15 hrs.	15	15%
1:15-1:30 hrs.	12	12%
>1:30 hrs.	30	30%

Graph 1.2 Distribution of Patient view on Waiting Time spent OPD for consultation:



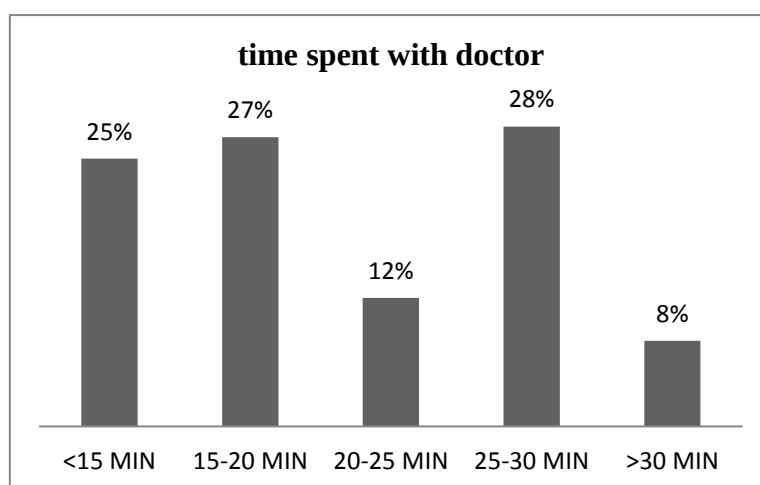
It is evident from the above table that the maximum waiting time spent by the patients in the OPD for consultation with doctors is more than 45 minutes (69% of patients) and that's a concern. It shows that out of 100 patients, highest is 30% patients who had to wait for more than 1:30 hrs. and lowest 11% patient waited for less than 30-45 min. While 12% patient waited for 45 min.-1 hr. and 27% patient waited for 1:00-1:30 min in the OPD for consultation.

3) Time spent for consultation:

Table 1.3 Distribution of Patient View on Time Spent in consultation with doctors:

CRITERIA	FREQUENCY	PERCENTAGE
<15 min.	25	25%
15-20 min.	27	27%
20-25 min.	12	12%
25-30 min.	28	28%
>30 min.	8	8%

Graph 1.3 Distribution of Patient View on Time Spent in consultation with doctors:



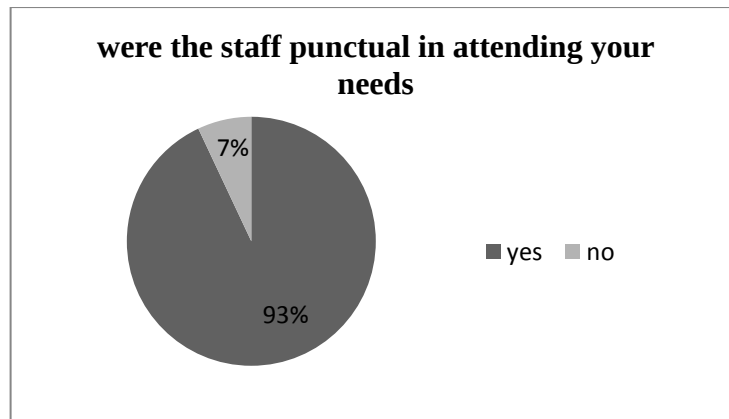
As per shown in the above graph the time spent by a patient in consultation with doctor. It shows that out of 100 patients, according to 25% patients' doctors take less than 15 min for consultation, 27% patients says 15-20 min., 12% patients says it takes between 20-25 min. 28% patients says it is 25-30 min., and according to rest 8% patients, doctor takes >30 min. in consultation.

4) Were the staffs punctual in attending to your needs?

Table 1.4: Staff's Punctuality on Attending to Patient's needs:

CRITERIA	FREQUENCY	PERCENTAGE
YES	93	93%
NO	7	7%

Graph 1.4: Staff's Punctuality on Attending to Patient's needs:



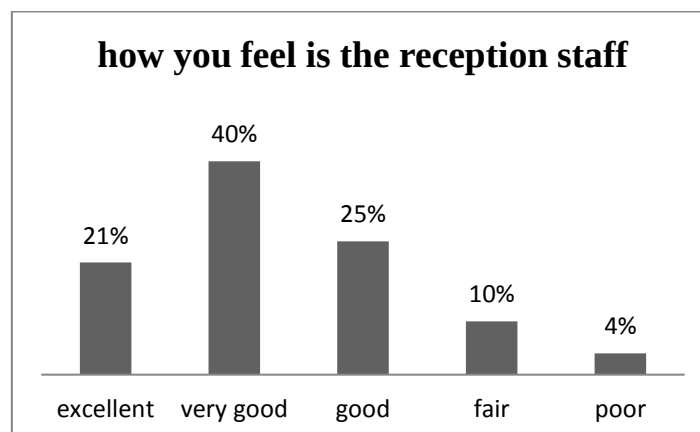
The patients view on punctuality of the staffs in attending to their needs, out of 100 patients, 93% patients agreed that staffs are Punctual in attending to the patients' needs and 7% patients disagreed to this.

5) How you feel is the reception staff:

Table 1.5: How you feel is the reception staff:

CRITERIA	FREQUENCY	PERCENTAGE
Excellent	21	21%
Very good	40	40%
Good	25	25%
Fair	10	10%
Poor	4	4%

Graph 1.5: How you feel is the reception staff:



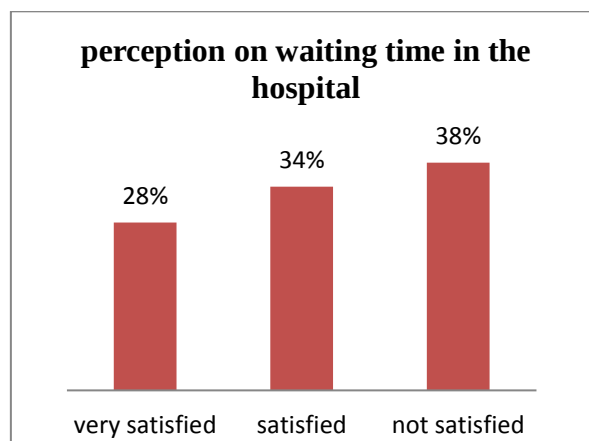
It is evident from the above data that the maximum no. of patients accepts that the reception staffs are very good, it shows that out of 100 patients, 86% of them are happy by their work.

6) What is your perception about waiting time in the hospital?

Table 1.6: perceptions of patients about waiting time:

CRITERIA	FREQUENCY	PERCENTAGE
Very satisfied	28	28%
Satisfied	34	34%
Not satisfied	38	38%

Graph 1.6 perceptions of patients about waiting time:



It is evident from the above table that the maximum patients are not satisfied by the time they are waiting in the reception and for consultation and that's a concern. It shows that out of 100 patients, 38% patients are not satisfied followed by 34% patients who are satisfied by that waiting time. 28% patients says that they are very satisfied.

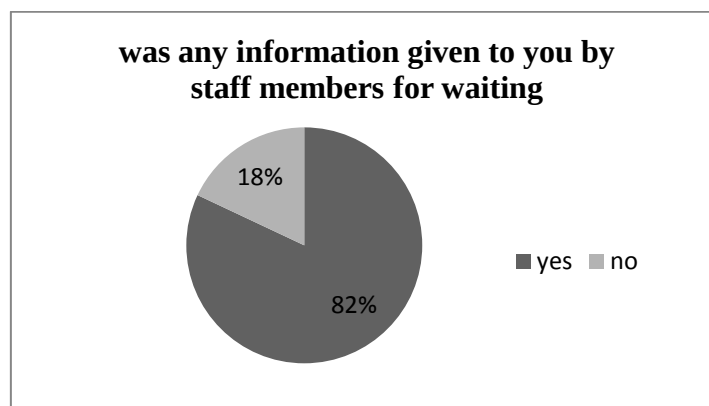
7) Was any information given to you by staff members for waiting?

Table 1.7: information given to patients regarding waiting time:

CRITERIA	FREQUENCY	PERCENTAGE
YES	82	82%

NO	18	18%
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Graph 1.7: information given to patients regarding waiting time:



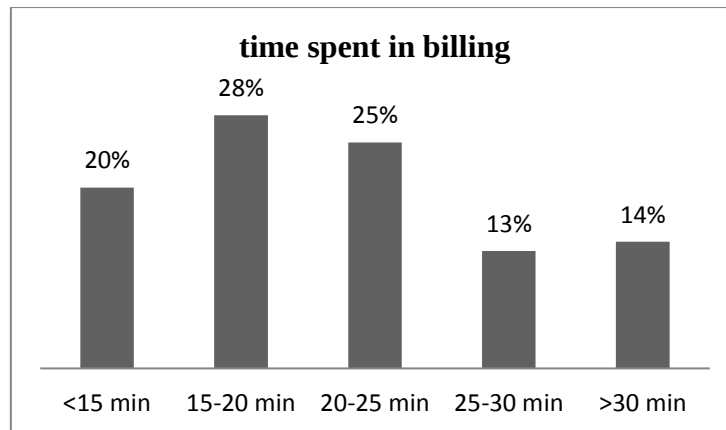
It shows that out of 100 patients, 82% were informed about the respective waiting time rest of them were left (18% of them).

8) How much time patients spent for billing:

Table 1.8: Time spent in billing:

CRITERIA	FREQUENCY	PERCENTAGE
<15 min.	20	20%
15-20 min.	28	28%
20-25 min.	25	25%
25-30 min.	13	13%
>30 min.	14	14%

Graph 1.8: Time spent in billing:



Above data shows the time spent by patients for the procedure of billing. Out of 100 patients 20% says that it took them less than 15 minutes. 15-20 minutes for 28% of them. 13% of them says it takes 25-30%. Rest of the patients says it is more than 30 minutes which is quite more.

9) How would you evaluate quality of care for this hospital?

Table 1.9: Quality of care:

CRITERIA	FREQUENCY	PERCENTAGE
Excellent	27	27%
Very good	29	29%
Good	25	25%
Fair	14	14%
Poor	5	5%

Graph 1.9: Quality of care:



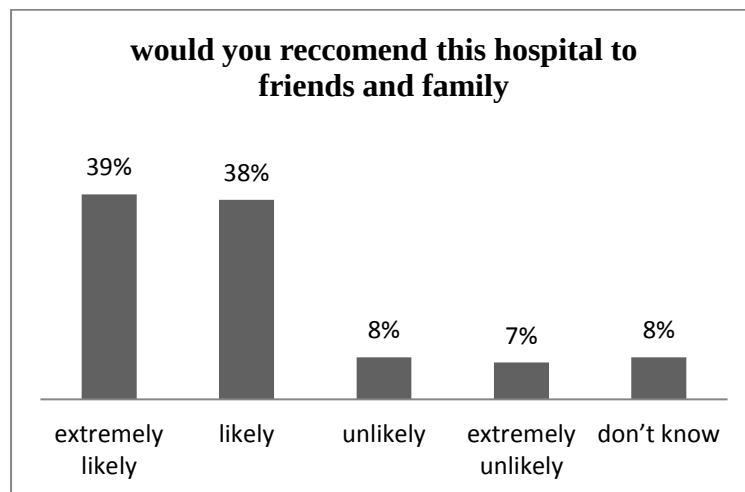
Above data shows the overall quality of care patient feels this hospital provides. Out of 100 patients, 81% patients this hospital provides good quality services and treatment. 27% of the patients' thinks quality of care is excellent. Rest of the patients, 14% consider it as fair, and 4% say it is poor.

10) How likely a patient recommends this hospital to friends and family:

Table 1.10: Would you recommend this hospital to friends and family?

CRITERIA	FREQUENCY	PERCENTAGE
Extremely likely	39	39%
likely	38	38%
Unlikely	8	8%
Extremely unlikely	7	7%
Don't know	8	8%

Graph 1.10: Would you recommend this hospital to friends and family?



It is evident from the given data that how likely a patient is recommending the services of this hospital to their friends and family. With 39% (extremely likely) to 38% (likely), 77% of patients recommend it, 8% (unlikely) and 7% (extremely unlikely) say they don't, and the rest 8% don't know.

OBSERVATION AND FINDINGS

The study entitled- “A STUDY ON WAITING TIME IN THE OUT-PATIENT DEPARTMENT IN RAJIV GANDHI CANCER INSTITUTE AND RESEARCH CENTRE” was under taken with main objectives to demine the flow of patient and average time spent in the OPD, to identify the factors those are responsible for high waiting time and to recommend appropriate suggestions to optimize the waiting in OPD.

The study is conducted in a 302 bedded hospital in New Delhi. This esteemed institute is well known for its services. The hospital is equipped with all modern technologies and rendering excellent services.

Analysis of data was done through tables and graphs showing the number of respondents and their respective percentage and percentage bar diagrams were used for the interpretation of the results.

- The result shows that average no. of patients coming to OPD each day as walk in is 50-60.
- The study shows that the waiting time spent by the patients in reception for registration in case of maximum no. of patients is less than 35 minutes; this represents the efficiency of the registration process in the OPD.
- Study depicts that the average waiting time spent in OPD for consultation is quite more in maximum number of patients i.e. 69% out of 100 patients had to wait for more than 45 minutes and time taken during consultation is 20-30min which states that OPD of the hospital functions unsatisfactorily.

The main reason for longer waiting time in OPD for consultation is that the doctors need to visit IPD patients during the OPD hours.

- Study revealed that billing consumes average of 20-25 minutes which itself serves as dissatisfaction for the patients.
- The study shows that maximum no. of patients are satisfied with the punctuality of the staffs in attending to their needs.

- Queuing method is followed for reducing waiting time in OPD.

SUGGESTION (RECOMMENDATIONS)

Some suggestion to improve the OPD facilities are as follows:-

- Patients should be encouraged to take appointments before their visit.
- Number of counters and staffs in billing must be increased to avoid long waiting time for the patients.
- Number of doctors should be increased in the depts., with large no. of patients.
- Number of registration counters should be increased because during the peak hours it may result in the negative image of the hospital in the mind of the patients.
- The waiting area should be more spacious.
- Medical OPD should also be on same floor as of registration desk and surgical OPD.
- Doctors should be available during working hours of the OPD.

CONCLUSION

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 service have elicited problems like overcrowding, delay in consultation, proper behaviour 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 provided by the hospital and the total consumed on each activity. In this study, it was found patients constitute of all age groups and genders among.

Administrative staffs are quite concerned towards the patient's expectation. They serve the suggestion box for patients and make sure to respond to the suggestion satisfactorily. Queuing method is followed for reducing waiting time in OPD. Study depicts that OPD always starts on time and the doctors mostly comes on time. Patients also come on scheduled appointment time sometimes getting delayed.

Since Reception centre being the primary bottleneck of the system, by increasing another server here, the system may be made to work in steady state.

ANNEXURES

QUESTIONNAIRE

Dear Respondents,

I am TANVEER SINGH a student of MBA (Hospital and Health management), as a part of my curriculum; is preparing a research project on “A RECOMMENDATION ON REDUCING WAITING TIME IN THE OUT-PATIENT DEPARTMENT IN RAJEEV GANDHI CANCER INSTITUTE AND RESEARCH CENTRE”

I request you to give your fair views. Your insights and perspective are important and valuable for my research.

Policy on Confidentiality: Please feel free to give your honest responses. The confidentiality of the information provided by the respondent is completely assured.

CR number:

Age :

Gender :

Contact No. :

Q1. Time of arrival in the hospital today

Q2. How do you feel is the reception staff?

EXCELLENT
VERY GOOD
GOOD
FAIR
POOR

Q3. Was any information regarding waiting time in OPD was given to you at the time of registration?

YES

NO

Q4. Billing time for OPD consultation:

Q5. OPD consultation time:

Q6. Time spent for consultation/ Time spent with doctor:

1. >15 min.
2. 15-20 min.
3. 20-25 min.
4. 25-30 min.
5. >30 min.

Q7. How much time you spent for completion of billing?

1. >15 min.
2. 15-20 min.
3. 20-25 min.
4. 25-30 min.
5. >30 min.

Q8. Was the staff punctual in attending to your needs?

YES

NO

Q9. What is your perception on waiting time of the hospital?

VERY SATISFIED

SATISFIED

NOT SATISFIED

Q10. How do you evaluate our quality of care?

EXCELLENT

VERY GOOD

GOOD

FAIR

POOR

Q11. How likely are you to recommend our OPD to friends and family if they needed similar care or treatment

EXTREMELY LIKELY
LIKELY
UNLIKELY
EXTREMELY UNLIKELY
DON'T KNOW

Q12. Problems faced?

Q13. any suggestions ?

REFERENCES

1. Jacobson SH, Hall SN, Swisher JR (2006) Discrete-event simulation of health care systems. In: Hall R (ed) Patient flow: reducing delay in healthcare delivery. Springer, New York, pp 210–252
2. Vos L, Groothuis SG, van Merode G (2007) Evaluating hospital design from an operations management perspective. Health Care Management Sci 10:357–364, doi:10.1007/s1072900790347
3. VanBerkel P, Blake JT (2007) A comprehensive simulation for wait time reduction and capacity planning applied in general surgery. Health Care Manag Sci 10:373–385, doi:10.1007/s1072900790356
4. Comas M, Castells X, Hoffmeister L et al (2008) Discrete-event simulation applied to analysis of waiting lists. Evaluation of a prioritization system for cataract surgery. Value Health 11(7):1203–1213
5. Chan S-YE, Ohlman J, Dunbar S et al (2002) Operations research methods applied to workflow in a medical records department. Health Care Manag Sci 5:191–199
6. Bailey NT (1952) A study of queues and appointment systems in hospital outpatient departments with special reference to waiting times. Journal of the Royal Statistical Society, A14, 185-199.
7. Ajayi IO, Olumide EA, Oyediran O (2005). Patient satisfaction with the services provided at a General Outpatients' Clinic, Ibadan, OyoState, Nigeria. Afr. J. Med. Sci., 34(2):133.