

**Streamlining the Processes in Cardiac OPD by Identifying
the Bottlenecks**

**Internship Training
at
Medanta the Medicity, Gurgaon**

**By
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**Under the guidance of
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**Post Graduate Diploma in Hospital & Health Management
2012–14**


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2014**

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TO WHOMSOEVER MAY CONCERN

This is to certify that Prashant Mishra student of Post Graduate Diploma in Hospital and Health Management (PGDHM) from Institute of Health Management Research, Jaipur has undergone internship training at Nedanta, the medicity, Gurgaon from 1st Feb, 14 to 30th April, 14

The Candidate has successfully carried out the study designated to him during internship training and his approach to the study has been sincere, scientific and analytical. The Internship is in fulfillment of the course requirements. I wish him all success in all his future endeavors.

Dean, Academics and Student Affairs
IIHMR, Jaipur

Professor
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(Anoop Khanna)



Global Health
Private Ltd.

Date: 19th May 2014

TO WHOMSOEVER IT MAY CONCERN

This is to certify that **Mr. Prashant Kumar Mishra** student of **IIHMR, Jaipur** has done his 3 months internship in the department of **Medical Administration** and has successfully completed his project on "**Streamlining The Processes In Cardiac OPD by Identifying The Bottlenecks**" from **1st February 2014** to **30th April 2014** with **Global Health Private Limited (GHPL), Medanta The Medicity Hospital, Gurgaon (Haryana)**.

Very truly yours,

For **Global Health Private Limited**


Authorized Signatory

Dissertation Writing Annex F (Certificate of original work)

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CERTIFICATE BY SCHOLAR

This is to certify that the dissertation titled Streamlining the processes
in cardiac OPD by identifying the bottlenecks

..... and submitted by (Name) Prashant

Kumar Mishra Enrollment No. IIHMR/PHDM/2012-2014/17-1355 under the supervision of

Dr. Anoop Khanna for award of Postgraduate Diploma in

Hospital and Health/ Pharmaceutical / Rural Management of the Institute carried out during the period from

1st Feb, 14 to 30th April, 14 embodies my original work and has not formed the basis for
the award of any degree, diploma associate ship, fellowship, titles in this or any other Institute or other similar
institution of higher learning.

Prashant Kumar Mishra
Signature

Dissertation Writing

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PRASHANT KUMAR MISHRA

PGDHM- 17th Batch

IIHMR-Jaipur

LIST OF ACRONYMS

AHU	AIR HANDLING UNIT
CCU	CORONARY CARE UNIT
CU	CLEAN UTILITIES
SEMS	SELF EXPANDING METAL STENTS
EUS	ENDOSCOPIC ULTRASOUND
ERCP	ENDOSCOPIC RETROGRATE COLANGIOPANTOGRAPHY
UGI	UPPER GASTROINTESTINAL BLEED
DOD	DAY OF DISCHARGE
F&B	FOOD AND BEVERAGES
HDU	HIGH DEPENDENCY UNIT
HIS	HOSPITAL INFORMATION SYSTEM
HR	HUMAN RESOURSE
ICU	INTENSIVE CARE UNIT
ICU	INTENSIVE CARE UNIT
IPD	IN PATIENT DEPARTMENT
IPS	INTERNATIONAL PATIENTS SERVICES
MRD	MEDICAL RECORD DEPARTMENT
OT	OPERATION THEATRE
TKR	TOTAL KNEE REPLACEMENT
TL	TEAM LEADER
TPA	THIRD PARTY INSURANCE
UHID	UNIQUE HOSPITAL IDENTIFICATION NO.
UTI	URINARY TRACT INFECTION

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PART: A

HOSPITAL PROFILE
Medanta- The Medicity
Gurgaon

1. INTRODUCTION



1.1 HOSPITAL PROFILE

Medanta – The Medicity is one of India’s largest multi-super specialty institutes located in Gurgaon, a bustling town in the National Capital Region. Founded by eminent cardiac surgeon, Dr. Naresh Trehan, the institution has been envisioned with the aim of bringing to India the highest standards of medical care along with clinical research, education and training. Medanta is governed under the guiding principles of providing medical services to patients with care, compassion, commitment.

Medanta – The Medicity brings together an outstanding pool of doctors, scientists and clinical researchers to foster collaborative, multidisciplinary investigation, inspiring new ideas and discoveries; and translating scientific advances more swiftly into new ways of diagnosing and treating patients and preventing diseases. A one-of-its-kind facility across the world, Medanta through its research integrates modern and traditional forms of medicine to provide accessible and affordable healthcare.

WHAT IS UNIQUE ABOUT MEDICITY?

Medicity aims to functionally integrate within one campus and one management the facilities of medical care, teaching as well as research and development. It also offers to explore the possibility of integrating knowledge of traditional and alternative medicine with modern medicine, through means of scientific research.

Medicity is led by Dr. Naresh Trehan, one of the leading luminaries in the medical world.

Dr Trehan is a recipient of various national and international awards for excellence including highest national awards Padma Shri and Padma Bhushan, in recognition of his distinguished service to the nation. He has also served as personal surgeon to the President of India since 1991 and was formerly President of the International Society for Minimally Invasive Cardiac Surgery (ISMIC).

Medicity’s team has attracted some of the most distinguished names in medical and non medical fields from all over the world.

INFRASTRUCTURE

Located across 43 acres in the new international business destination of Gurgaon, Medicity will be a 1600-bed institute of world standards with over 45 operating theatres, 1260-bedded IPD, with 350 Critical care beds. 24 OTs and 704 bedded IPD are functional as of now.

EDUCATION

Medicity will have a full-fledged medical college, the objective of which will be to produce highly competent general physicians and specialists who are socially sensitive and fully committed to principles of medical ethics. It will also make every attempt to erase the dividing line between clinical and non-clinical areas.

RESEARCH AND DEVELOPMENT

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

TRADITIONAL MEDICAL PRACTICES

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

SPECIAL INTERNATIONAL SERVICES

Medanta offers personalized services to International patients that include Appointment Scheduling, Treatment Packages, Visa Assistance, and Hotel Reservations, among others, etc.

TELE-MEDICINE CENTRE

Has the state of the art technology and provides continuous access to various primary & secondary health centers in the remotest locations across India. It plans to connect 600 villages across India & provide connectivity to 56 African cities. Services Offered by Tele-medicine:-

- Tele-Consultation
- Tele-Diagnosis
- Expert's Opinion / Specialist's Opinion
- Live Surgeries
- Public Awareness programs
- Case follow-ups (Post-Surgery)
- CME Programs
- Tele-Conferences

Figure 1: ADMISSION COUNTERS



Figure 2: HI TECH INFRASTRUCTURE



Figure 3: IN PATIENT DEPARTMENT



Figure 4: AMBULANCE OUTSIDE



Figure 5: MEDANTA- WHERE WORLD'S RENOWNED DOCTORS SERVE

Medanta offers cutting edge technology and state-of-art treatment facilities designed to deliver healthcare at an *affordable cost*.

1.2 HOSPITAL PHILOSOPHY

VISION & VALUES

Institute is governed under the guiding principles of providing affordable medical services to patient with care, compassion and commitment.

OBJECTIVES

- To establish integrated tertiary care services incorporating over 20 super specialties of the highest quality.
- To form an integrated approach to achieve this where Pharmaceutical research, Biotechnology research and Health care delivery are conducted seamlessly.
- To incorporate the strengths of Traditional & Modern medicine to create newer therapies.
- To exploit potential of global healthcare by leveraging technology and hospitality services (medical value travel).
- To leverage the strengths for value added service in research and development, etc.
- To provide world class education and training.

POLICY

- **Integrity**-Medanta wants to be able to live by principles. Team Medanta work together to ensure the highest principles are adhered to and live by integrity and work by it.
- **Compassion**-Medanta's medical care professionals are people of compassion and empathy.
Patients are not treated as numbers; they are referred to by name. Medanta staff cares about the patient's recovery and wellbeing.
- **Transparency**-Medanta will have the most transparent governance practices, outcomes and billing systems.

- **Affordability**-As medical care professionals, vision is to provide health care to all, and not just society's select few. Medanta endeavor to offer the best Medicare available at a reasonable, realistic cost. The overriding objective is to ensure that quality care is on offer to the widest possible strata of the community.
- **Futuristic medical Practice**- Medanta wants to be at the cutting edge of international medical practice. The techniques and equipment used are no different from what you would find in the most advanced economies of the world. Medanta's specialist staff scours the globe for the best practice to bring it home to India.

1.3 HOSPITAL LOCATION

Medanta is strategically located in NCR, 8 minutes from the international airport. Seamless integration of various super specialties is evident (1500 beds, 350 critical care beds and 45 OTs), out of which 800 beds, 78 critical care beds and 14 OTs are already functional. Hotel/service apartments, residential and commercial complexes are also available.

AREA

Total covered area of about 4000,000 square meters.

2. LIST OF DEPARTMENTS & DIVISIONS VISITED

- Department of Clinical Immunology & Rheumatology
- Department of Dental Surgery
- Division of Endocrinology & Diabetes
- Division of ENT & Head Neck Surgery
- Department of General Surgery
- Division of GI & Bariatric Surgery
- Department of Hepatology and Liver Transplant
- Department of Urology and Andrology
- Department of Nephrology
- Department of Orthopedics and Joint Replacement
- Department of Neurosciences
- Department of Internal Medicine
- Department of Ophthalmology
- Division of Plastic, Aesthetic & Reconstructive Surgery
- Department of Pathology and Laboratory Medicine
- Department of Physiotherapy and Rehabilitation
- Department of Respiratory Medicine
- Division of Radiology & Nuclear Medicine
- Department of Transfusion Medicine (Blood Bank)
- Emergency and Trauma Care
- Pharmacy

3. SPECIALTIES VISITED

Medanta is a conglomeration of multi-super specialties institutes which are led by exceptional medical practitioners who are leaders in their respective fields. Attracted from all over the world with the vision to reach the highest levels, these medical leaders are determined to push hard for excellence in medical care and research.

Medanta brings together state-of-the-art infrastructure, cutting edge technology, and a highly integrated and comprehensive information system, along with a quest for exploring and developing newer therapies in medicine. A one-of-its-kind facility in this part of the world, through research Medanta will integrate modern and traditional forms of medicine to provide accessible and affordable healthcare.

Medicity provides integrated primary, secondary and tertiary care services spanning over 20 Super-specialties and high-end services in:

INSTITUTES

1. Heart Institute
 - a. Division of Cardio Thoracic & Vascular Surgery
 - b. Division of Cardiology
2. Institute of Neurosciences
3. Bone & Joint Institute
4. Kidney & Urology Institute
5. Cancer Institute
 - a. Division of Radiation Oncology
 - b. Division of Medical Oncology & Hematology
6. Institute of Critical Care & Anesthesiology
7. Institute of Digestive & Hepatobiliary Sciences
8. Institute of Minimally Invasive Surgery
9. Institute of Transplant and Regenerative Medicine

PART: B

INTERNSHIP
(Floor Manager)
At Medanta, the Medicity
Gurgaon

JOB PROFILE OF FLOOR MANAGERS

- 1) All floor managers report to the COO, medical director & to the Medical Superintendent.
- 2) A dashboard is functional which allows all floor managers to discuss all floor related matters round the clock with the Medical Director. It is expected from the floor manager to update this dashboard daily and report to the Medical Director in person daily. The pattern of reporting is crucial and needs to be mentioned in the job description.
- 3) Since Medanta is a young and growing organization, the responsibility of the floor manager is not restricted to just coordinating the floor activities. The floor manager is an active stakeholder when streamlining of various ward level activities is undertaken. Hence it is the responsibility of the floor manager to analyze and streamline the processes in the ward and suggest reforms.
- 4) The existing job description sights that the floor manger must ensure availability of nurses which does not solve the purpose. The floor manager must ensure prompt response to all nursing calls.
- 5) Since only one attendants was allowed to stay with the patients in the ward, it is the responsibility of the floor manager to:
 - Make sure the attendants follow rules of visiting hours.
 - All information about the patient including date and time of operation, instructions given at the time of consultant rounds, providing interim bills, date of discharge, TPA approval status and lab results are well communicated to the attendants over the phone or during visiting hours.
- 6) The floor manager needs to check the noise levels in the entire ward as the patients are resting.
- 7) Nevertheless the floor manager must ensure that the nursing staff updates the system with all new admissions, transfers and discharges.
- 8) The floor manager also ensures that the user ids of all new employees are created ASAP.
- 9) It is the floor manager who resolves all issues related to bed management.
- 10) The floor manager also supervises the activities of the medical transcriptionist by ensuring all discharge summaries are prepared in time and daily ward notes are fed continuously in the system.

11) The following activities of the ward secretary need to be supervised by the floor manager:-

Placing doctors' visits, bedside procedures like ECG, ECHO etc, and equipments used and discharge advice on the system and the activity sheets in the patient file.

12) The floor manager not only addresses patient's problems but also provides necessary information in case of any queries.

13) Any problem related to patient food has to be supervised by floor manager with the help of F&B supervisor and Dietician.

14) Any problem related to room preparation and room requirement has to be supervised by floor manager with the help of Housekeeping Supervisor.

15) As a floor manager, we have to ensure availability of doctors and timely rounds.

16) As a floor manager, we have to accompany the doctors in daily ward rounds, address all patients problems, check MRD files for completeness, provide necessary information in case of any queries.

17) We also have to manage security, F&B, housekeeping, GDAs by ensuring general cleanliness and good appearance of the wards, by tracking movements of GDAs and nursing aids on the floors.

18) We need to analyze and streamline the processes in the wards and suggest reforms continuously.

19) We need to supervise that the feedback forms are regularly being filled by the discharge patients and have to report the major feedbacks to the head.

Part C

DISSERTATION

STREAMLINING THE PROCESSES IN CARDIAC OPD BY IDENTIFYING THE BOTTLENECKS AT MEDANTA THE MEDICITY



EXECUTIVE SUMMARY

This is a study conducted at the Heart institute at Medanta-The Medicity, Gurgaon, Haryana. The purpose was to assess the operational efficiency of various existing services in the outpatient department and the Heart Station of the institute, The study was performed by data collection at various levels and study the processes at different level at service delivery

The data was collected by conducting a physical survey/ direct observation, interviewing the staff , assessment of waiting time for patients, record review Streamlining of the process involved in scheduling of the services and measuring the implications of it.

It was distinctly observed that the major bottlenecks in the outpatient department was uneven variation of patient load throughout the day, over and underutilized rooms in the cardiac outpatient department. Crowding at the diagnostic rooms and setups.

A series of interventions were designed to cater the above mentioned problems and follow up mechanism was set to measure and sustain the performance attained. There were modifications in appointment systems as well as the system to handle and cater patient needs in most timely manner ensuring highest standard of patient satisfaction.

INTRODUCTION

Medanta Heart Institute (Division of Cardiology) have an integrated healthcare centre with a dedicated team of Cardiac surgeons and cardiologists who work in tandem to provide comprehensive, multidisciplinary care to patients suffering from heart ailments. Team of doctors, nurses, technicians and other heart experts are there to ensure unparalleled excellence in patient care, education and research.

The Division of Cardiology at Medanta Heart Institute is provides compassionate, state of the art, proficient care to heart patients at an affordable cost. The highly qualified team of cardiologists along with the latest technology ensures best possible care for a wide spectrum of heart diseases.

The Interventional team is available round the clock to help patients with cardiac emergencies with primary and complex coronary angioplasties and Stenting. Percutaneous Valvular interventions including aortic valve replacement need a special mention.

Dedicated Electrophysiology team has enormous experience in all kinds of electrophysiology studies, radiofrequency ablations, pacemaker and device implantations and resynchronization therapy. Three dimensional cardiac mapping using Carto technique and myocardial scar identification by NOGA enable our electrophysiologists to perform the most complicated RF ablations with ease.

Clinical Cardiology team consists of dedicated cardiologists capable to handle any cardiac emergency in the Heart command centre. Besides, early heart disease detection program and community outreach program have been designed to catch the disease before it can harm the individual. The Heart Failure clinic is the first of its kind in this part of the world.

At Medanta - The Medicity has the 256 slice CT scan which is the first in this part of the world and provides high resolution images of the coronary arteries enabling in early detection of heart disease. Cardiac MRI, PET scan, SPECT thallium, 3D echocardiography, contrast echocardiography are some of the advanced diagnostic imaging technologies at Medanta heart Institute. The mobile CCUs are fully equipped to save the "Golden Hour" for the patients having heart attack.

PROBLEM STATEMENT:

There are a number of challenges major excessive crowding of patients especially during peak days and peak hours resulting in large number of unsatisfied customers

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Literature Review:-

Patient satisfaction is a highly desirable outcome of clinical care in the hospital and may even be an element of health status itself. A patient's expression of satisfaction or dissatisfaction is a judgment on the quality of hospital care in all of its aspects. Whatever its strengths and limitations, patient satisfaction is an indicator that should be indispensable to the assessment of the quality of care in hospitals.

The word "hospital" comes from the Latin for both "guest" and "host," and the true spirit of hospitality is at the core of the hospital experience. The original mission of hospitals was to serve as houses of mercy, refuge, and dying for pilgrims returning from the Holy Land at the time of the late Christian antiquity. The striving to please patients is in harmony with the service calling of medicine and is certainly the right thing to do.

To create a culture of customer service excellence in hospitals and achieve outstanding patient satisfaction, it is necessary to understand the intangible aspects of perception and expectation that contribute to patient satisfaction. The "First Law of Service" provides a useful, simple mathematical model of satisfaction. The formula for this model is $\text{Satisfaction} = \text{Perception} - \text{Expectation}$. If a patient's perception of their hospital experience meets or exceeds the expectation, there will be a corresponding degree of satisfaction. However, if the perception does not meet the expectation, there will be resulting dissatisfaction. Thus, patient satisfaction results from meeting or exceeding patients' expectations. Patient perceptions of care can be measured directly from patient satisfaction surveys, focus groups, and telephone surveys. A hospital's reputation and market share are indirect measurements of patient perceptions. There are 2 main directions in which patient satisfaction can be influenced: by working on what the patient perceives and on what the patient expects.

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RESEARCH QUESTION

An assessment of adequacy of cardiac outpatient services in Medanta with respect to quality, performance and standardization.

AIM

To streamline the processes by identifying all the major bottlenecks in cardiac opd

OBJECTIVES:

- To map the OPD processes for non- value added activities.
- To identify the wastes and improvement areas in these processes.
- To redesign these processes for maximum efficiency.
- To monitor and evaluate the benefits of the redesigned processes.
- To design a training for empowering the staff for this change management.

RESEARCH METHODOLOGY

STUDY DESIGN

- **Type of study:** Descriptive study
- **Location of study:** Medanta the Medicity, Gurgaon
- **Study subjects:** Patients, patient care staff and other support staff of OPD .
- **Sampling process-** Random sampling
- **Data (information) to be collected:** Primary data collected in the form of observations, in-depth personal interviews and other patient related documentation records. Secondary data including HIS records of out-patients, data on medical records etc.
- **Data collection tools:** Qualitative (interviews, observations) and quantitative (Hospital records)

ETHICAL CONSIDERATIONS

1. Rights of the respondents and informed consent was ensured.
2. Rights of the institution where the study is conducted was ensured.
3. Scientific honesty was maintained.
4. We did not explore sensitive issues before a good relationship was established with the informant.
5. The privacy & confidentiality of data obtained was ensured.

OBSERVATIONS

The number of patients for all major doctors were obtained and the peak days and the peak times for all days in the week were identified:-

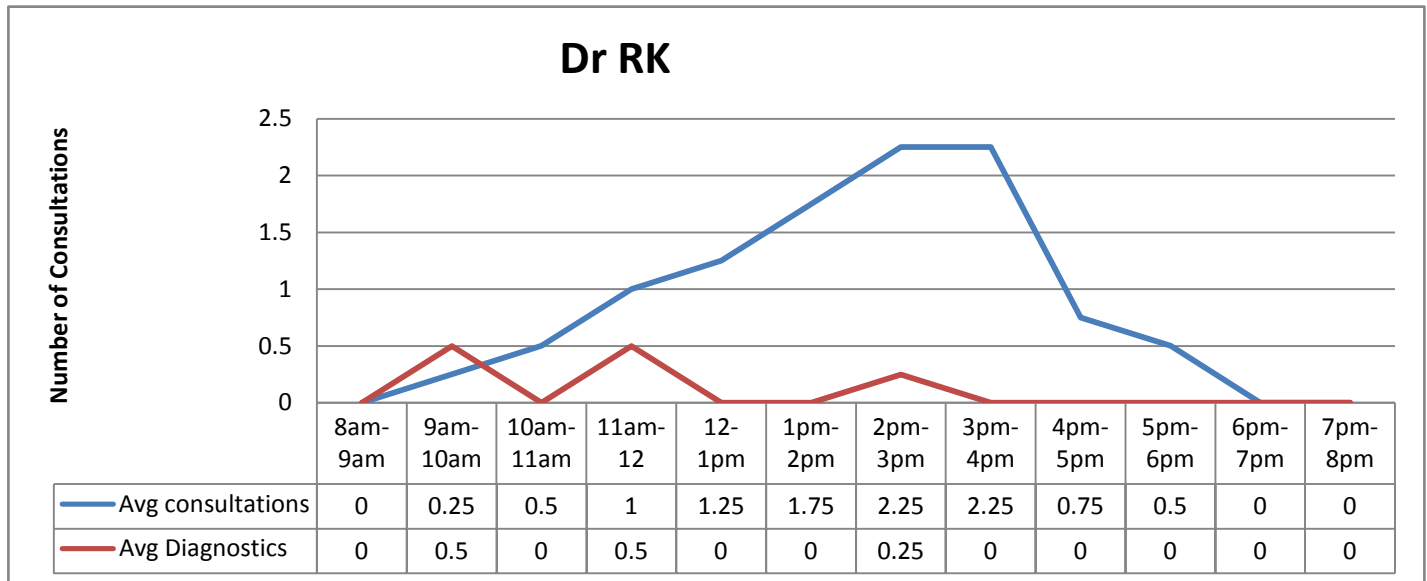


Figure: The average number of diagnostics and consultations visits for the director interventional cardiology

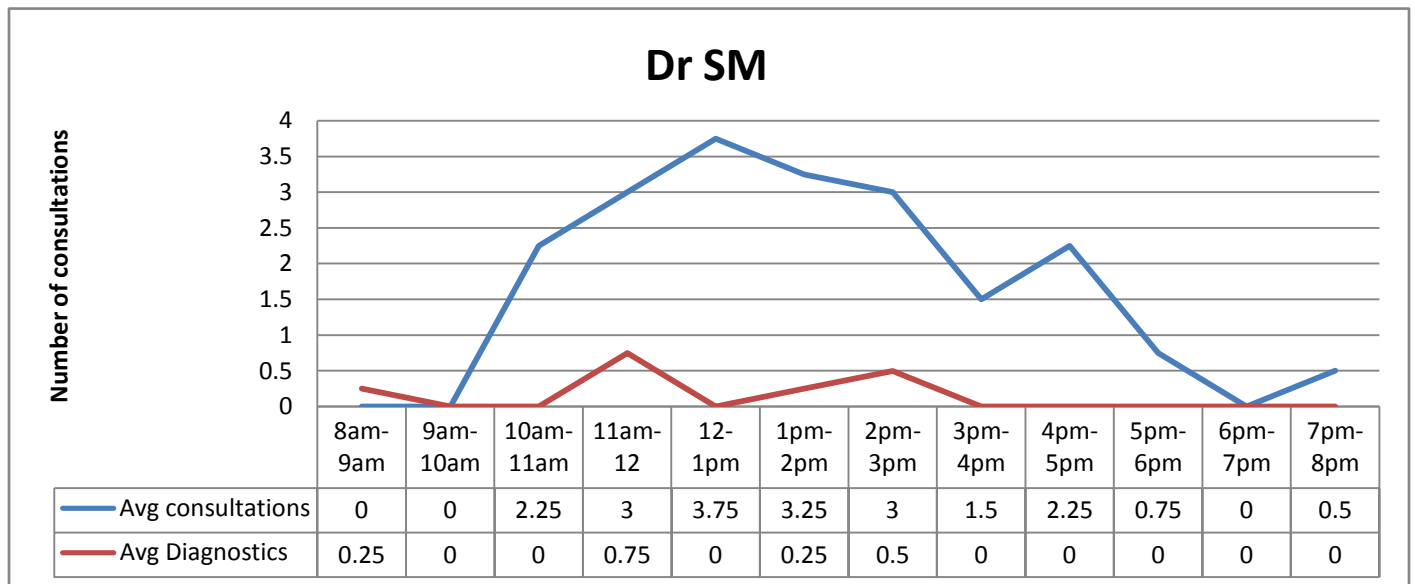


Figure:- The average number of diagnostics and consultation visit for the director clinical cardiology and research

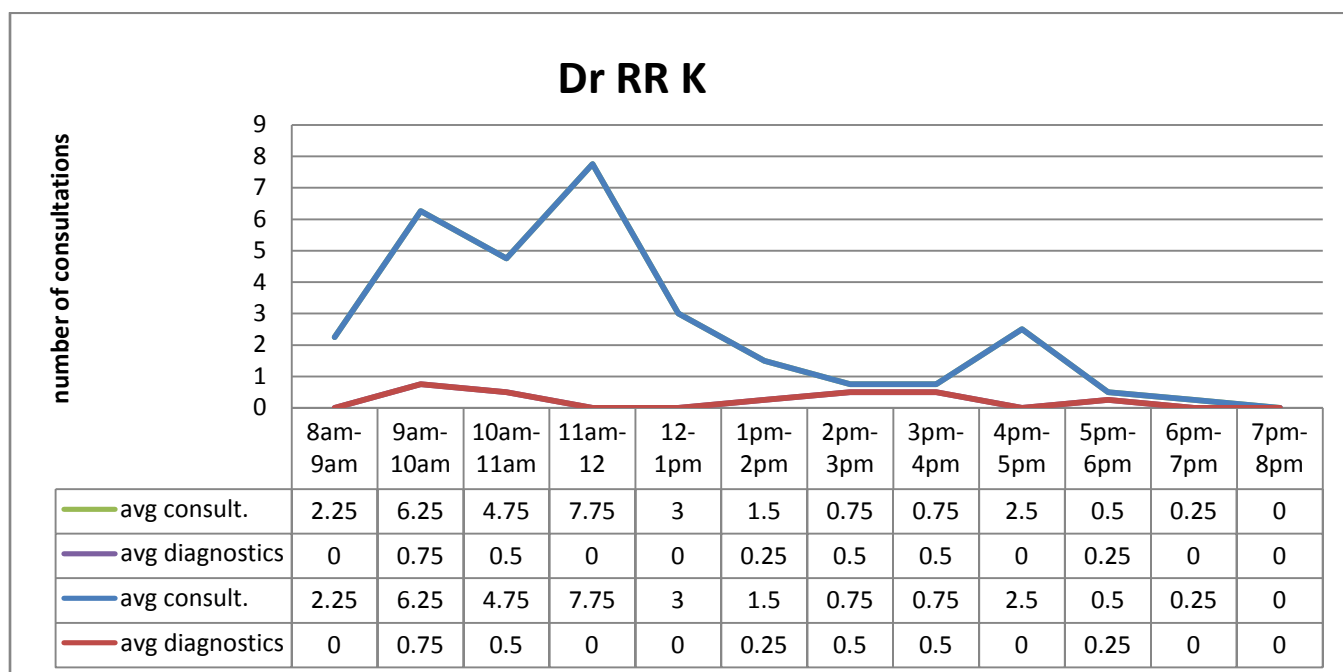


Figure:- The average number of diagnostics and consultation visits for Chairman Clinical Cardiology

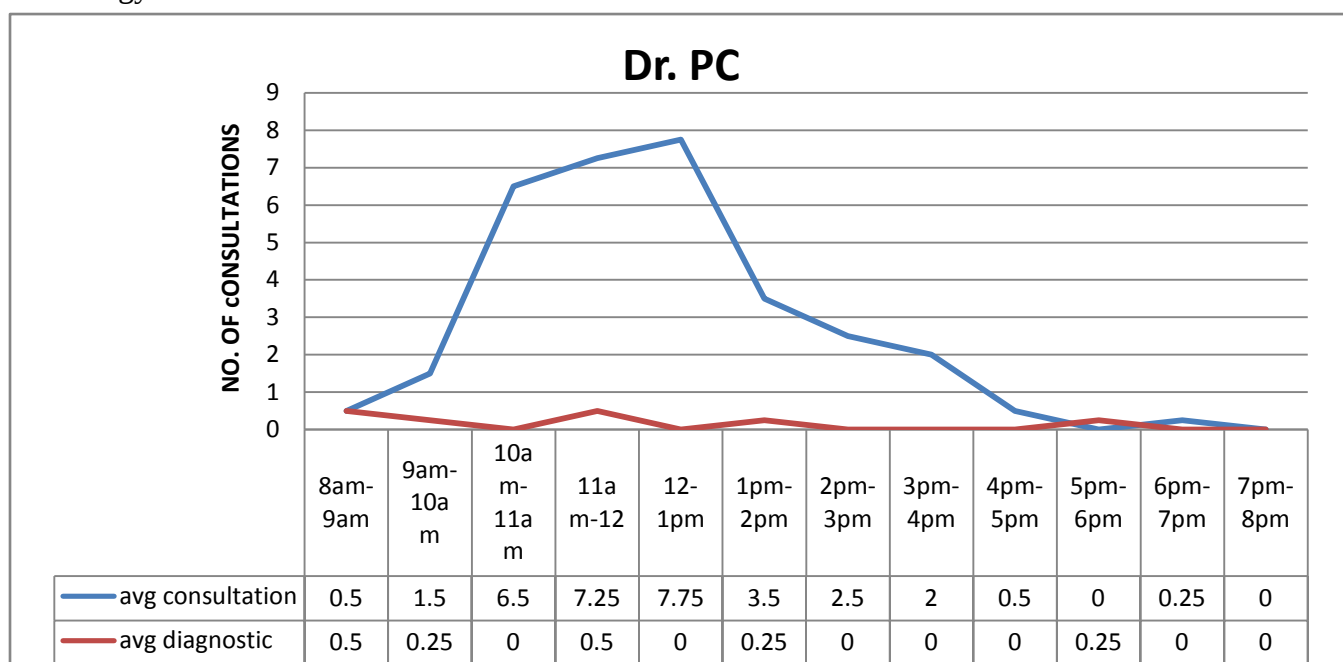


Figure:- The average number of diagnostics and consultation visits for chairman interventional cardiology

INFERENCES:-

From the above study it is evident that the load of the patients were unevenly distributed throughout the week with very high patient load on Mondays , Tuesdays and Wednesdays , which further goes on decreasing towards the end of the week.

The even distribution of this load of patients results in very high utilization of the manpower and machinery on certain days, whereas on other days the utilization remains low

Desired outcome:-

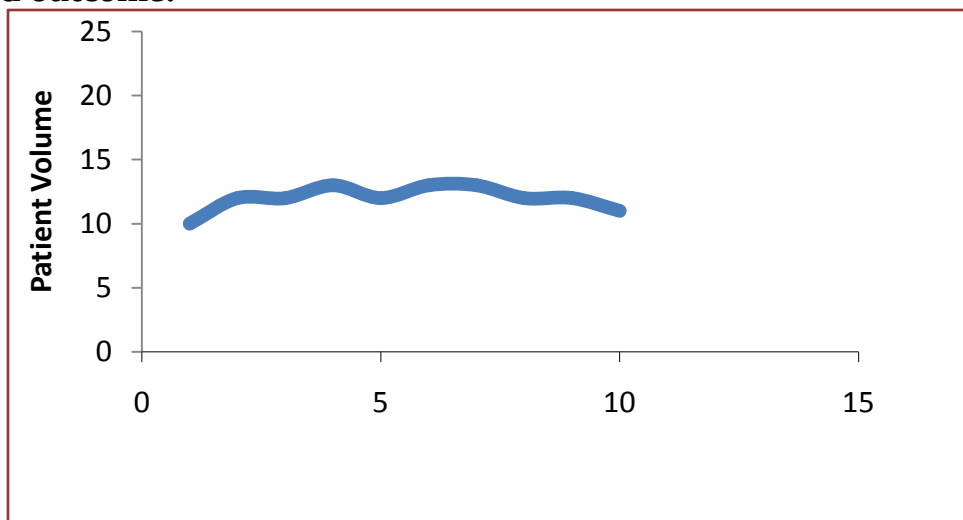


Figure:-The desired number of patient flow throughout the day to attain maximum efficiency

However the desired outcomes after the study is to bring about uniform patient flow throughout the week and all other interventions are designed accordingly.

There was a significant crowding seen at Nursing counters 1 and 2 :-

- Activities at Nursing Counter 1 includes patient flow for more than 200 patients for consultations of all the doctors
- Coordination and flow of around 100 patients for nursing assessment.

Interventions Applied:-

- Installation of a larger counter in the centre
- Manning of the counter by 3 staff during the peak hours
- Introduction of Queue management display systems
- Provision of separate report desk instead of counter 2 thereby reducing a load of around 80 people in nursing counter 2
- Increasing the timings of the Nursing Counter 2 from 8 am to 8 pm in the evening

Over utilized Rooms of the Doctors:-

- Room number 16 & 17 are shared by 13 consultants with over 50 patients with overlapping consultation times resulting in high waiting time causing.....
- Heart Station rooms getting utilized for consultations
- Hampering privacy of patients
- Unsatisfied doctors and patients.
- Long waiting time for both patients and doctors

INTERVENTIONS APPLIED:-

- Tests performed in Room-5 & 6 to be clubbed in Room-5
- Room-6, 10 & 14 can be allotted as Consultation room

Overcrowding in Echo Rooms:-

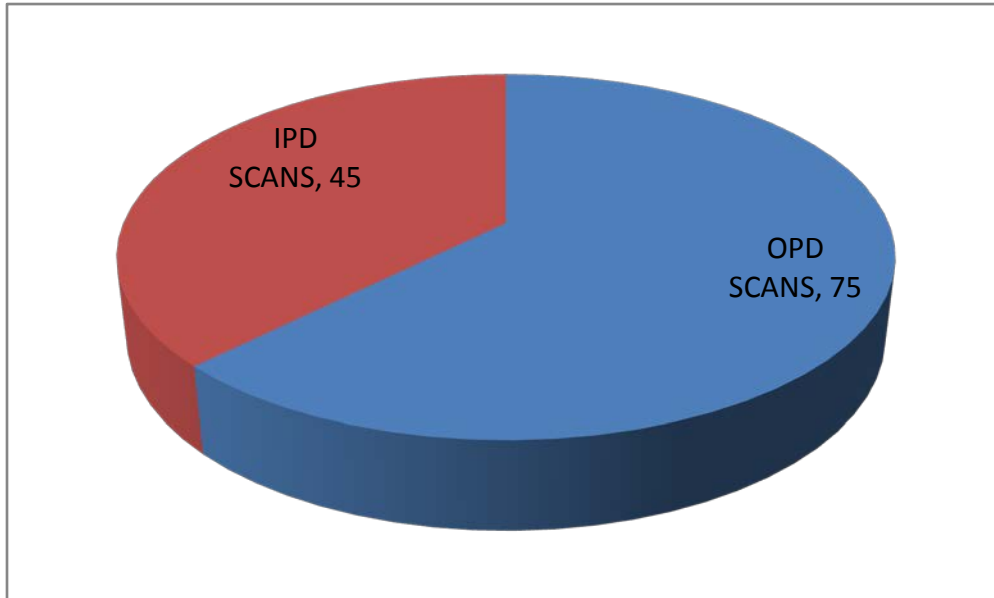


Figure:- The average number of IPD and OPD scans taking place in Heart Station

INTERVENTIONS :-

Scheduling for In patient scans before and after the OPD hours to be introduced

Current utilization of 9th IPD heart station to be increased

Conclusion:-

- **The bottlenecks identified were the improper appointment system, layouts, over and underutilized rooms, no standard protocol for operations**
- **On interventions on the above mentioned challenges there was drastic improvement on the entire operational efficiency of the hospital**
- **The interventions were designed keeping in mind, minimum possible requirement of any additional resources**

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www.medanta .org

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