



INSTITUTE OF HEALTH MANAGEMENT RESEARCH

JAIPUR

MBA IN HOSPITAL AND HEALTH MANAGEMENT

SUMMER TRAINING REPORT

On

MOTION STUDY OF PREVENTIVE HEALTH CHECK UP PATIENTS IN PARAS HMRI HOSPITAL AND GAP ANALYSIS

UNDER THE GUIDANCE OF

PROF. SAUMITRA JOSHI (ASSISTANT PROFESSOR)

IIHMR University

PROJECT GUIDE

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PARAS HMRI HOSPITAL

By

RACHANA KASHYAP

CERTIFICATE

This is to certify that Ms. Rachana Kashyap underwent her summer training at PARAS HMRI HOSPITAL, PATNA from 06th April to 03rd June, 2015.

The candidate herself carried out all the studies related to the summer training. Her approach to the study was sincere, scientific and analytical.

This summer training is a course requirement recommended before awarding the degree of Master of Business Administration (MBA) Hospital Management.

I wish her success in all her future endeavors.



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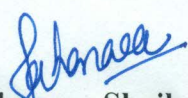
TO WHOMSOEVER IT MAY CONCERN

This is to certify that Ms. Rachana Kashyap has done Internship program in our organization from 6th April, 2015 to 3rd June, 2015.

During the above period, she was found to be sincere, hardworking and responsible towards her work.

We wish her all the best in her future endeavors.

for Paras Healthcare Pvt. Ltd.



Jahanara Shaik
Manager- HR

Acknowledgement

I have taken efforts in this project. However, it would not have been possible without the kind support and help of PARAS HMRI Hospital, my institute, Institute of Health Management Research, Jaipur, project guide and colleagues. I would like to extend my sincere thanks to all of them.

I would also like to extend my gratitude towards my mentor Prof. Saumitra Joshi, assistant professor and Prof. Vijay Pratap Raghuvanshi, assistant professor (IIHMR University) who helped me out throughout the project.

I am highly indebted to PARAS HMRI Hospital for giving me this opportunity.

I would like to express my gratitude towards Mr. Varun Kumar Jha, Manager, Front office and Billing Department, Mr. Abhishek , Assistant manager, Quality department, and Mrs. Akansha Paul, Executive, Preventive Health Checkup and Ms. Jahanara Shaik, Manager, Human resource dept. for their kind support, co-operation and encouragement which helped me in completion of this project.

I would also like to thanks Human Resource team and Medical Records Department team who co-operated and supported me a lot in completion of my project. My thanks also goes to all the departments of PARAS HMRI Hospital and their employees who supported me and provided me all the information that I have needed for project completion.

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RACHANA KASHYAP

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Executive summary

The project was done to study the movement of patients in Preventive Health Checkup Department and then to find out the gaps if present.

The study was descriptive analytical type of study. The data was collected from the patients, employees of Preventive health checkup department, OPD, Laboratory and radiology, nurses, some technicians, data available on internet and self observation. Duration was one month.

The study was done on 300 patients who came for preventive health checkup in the hospital. The data collected for each patient was sorted and compiled and analysis was done. On the basis of the above information, the gaps due to which there is a delay in preventive health checkup were identified.

An overview of hospital was also observed and written.

This study allows to know that how important the preventive health checkup is, how time management plays an important role in the smooth functioning of this department, what are the gaps that hinder the smooth flow of PHC patients and some possible ways to minimize these gaps. After analysis it was found that average waiting time of premium check was highest and TAT was also highest.

Whole process flow in PHC was observed minutely and precisely. Eventually it was being observed that the major chunk was due to decentralized PHC department and also time constraints limit the ability of doctors to comply with preventive services. Due to decentralization, time consumed in one check up was more than the TAT defined in policy. Duty shift of doctors can also play an important role in saving time. As PHC is linked with many other departments, communication plays an important role here.

SECTION 1

(HOSPITAL REPORT)

Introduction:-

Paras overview:-

Paras HMRI Hospital, Patna is a 350 bedded state-of-the-art multi speciality private limited organization situated in the heart of the city. Started in year 2013 and owned by Dr. Dharminder Nagar, it has been designed and constructed in conformity with the highest global standards of quality. It spreads over 3,25,000 square feet. Paras Hospitals is a pioneer in formulating high standards of medical care and ensuring noteworthy Medical results. Paras healthcare offers 24*7 services in Advanced Trauma Centre, Critical care, Medical and Surgical ICUs, Radiology and laboratory, Blood Bank, Ambulance and Pharmacy. Paras healthcare is having super specialties and multi specialties in various clinical areas. Paras HMRI is waiting for its NABH accreditation and in the month of april.2015, NABH came for pre – assessment. Its registered office is Paras hospital, gurgaon. Paras patna is a 350 bedded hospital. Comprising of total six floors, paras is having total 7 lifts and 5 staircases with ample of parking space. There are 12 front office desks in paras hmri hospital.

MISSION:-

- To provide competitive, innovative and accessible medical care to the patients.
- To facilitate improving the health of a patient by providing quality service through professionals that is affordable and delivered:
Compassionately
Appropriately
Responsibility
Efficiently
- To exhibit stewardship and creativity in the management of all available resources of patient care.
- To ensure the delivery of services enabling patient, families, guests, healthcare professional, associates to make the best use of facilities and environment consistent with philosophy and commitment of the patient care, health education and strategic initiative.
- To provide excellent family centre healthcare to the entire family and children in an environment that meets or exceeds the expectation of those served.

VISION:-

- To become preferred health care provider for all.
- Partnership in caring and curing.

- Providing excellent medical care to customers through faith in values, integrity, respect, teamwork, and innovation to achieve complete patient satisfaction.

Paras HMRI is having super specialty and multi specialty in the following areas:

Super specialties:-

- Institute of Cardiac Sciences
- Institute of Neuro Sciences
- Institute of Orthopedics and Joint Replacement
- Institute of Oncology
- Institute of Renal Sciences
- Institute of Gastro Sciences

Multi specialties:-

- Minimal access and GI surgery
- Trauma and critical care
- Gynaecology
- Pediatrics
- Pulmonology
- Medical and surgical oncology
- Plastic surgery
- Dermatology
- Dentistry
- Endocrinology
- ENT
- Psychiatry and psychology
- Ophthalmology
- Haematology
- Physiotherapy
- Dietetics
- Preventive health checks

PATIENT SAFETY GOALS 2014-2015:

- Identify patients correctly.

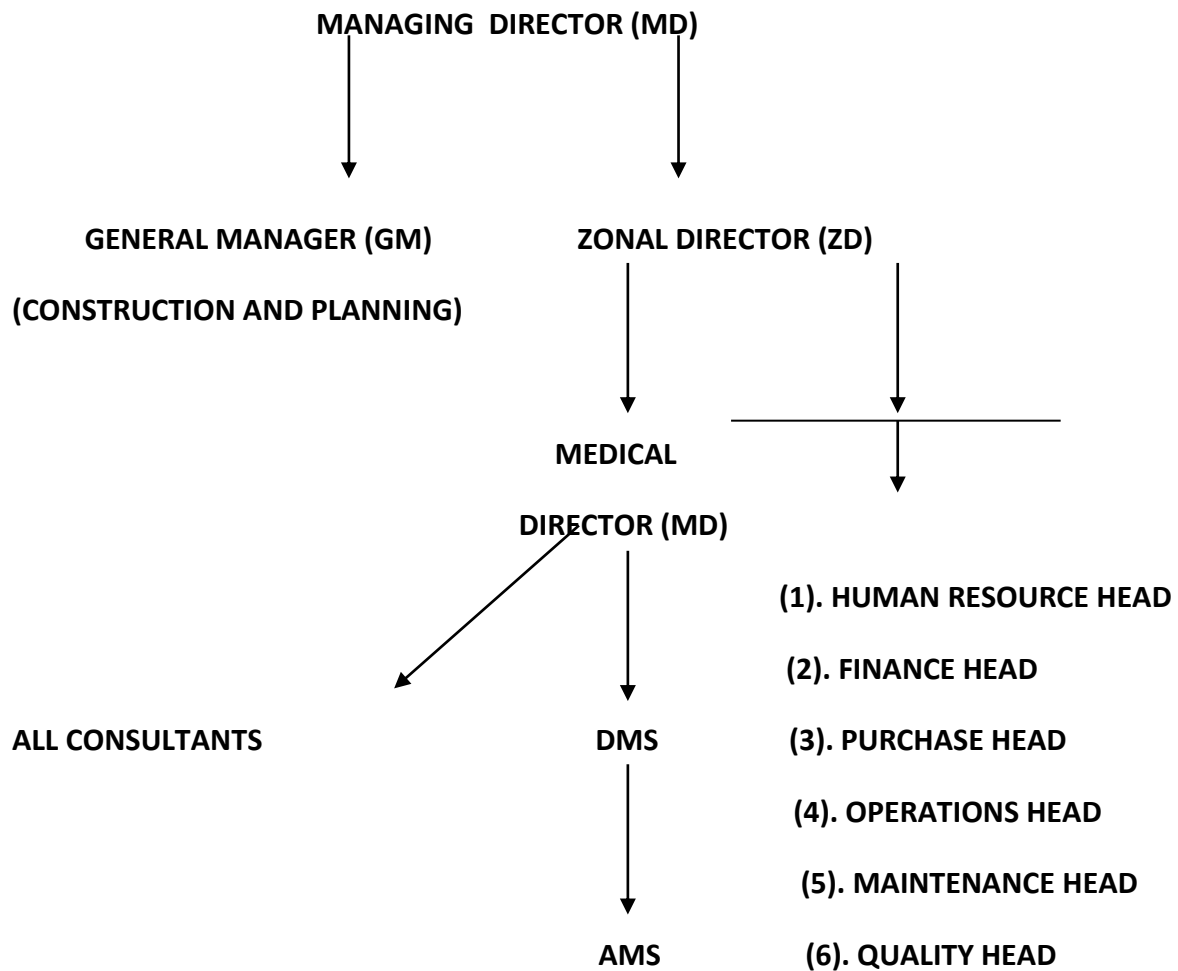
- Improve effective communication.
- Improve the safety of high alert medications.
- Ensure Correct-sight, Correct-procedure and Correct-patient.
- Reduce the risk of health care associated infections.
- Reduce the risk of patient harm resulting from fall.

MODE OF DATA COLLECTION: A general report of PARAS HMRI Hospital was prepared by Observational learning, Interaction with Employees, Hospital’s Official Website, NABH Guide Book and PARAS Information Brochures.

PARAS HMRI HOSPITAL			
<u>Clinical & nursing services</u>	<u>Supportive services</u>	<u>Utility services</u>	<u>Administrative services</u>
Outpatient department	Laboratory services	Laundry & linen	Human resource
Indoor patient department	Blood bank	Engineering	Finance
Accident & Emergency services	Radio-diagnosis & imaging dept.	Dietary, transportation	Purchase
Intensive care Unit	Pharmacy, CSSD	House-keeping	
Operation theatre	Medical records dept.	Fire & Security	
Nursing services	Physiotherapy	Mortuary	
	Bio medical waste dept.		

ADMINISTRATION:

ORGANOGRAM



***DMS= DEPUTY MEDICAL SUPERINTENDENT**

***AMS=- ASSISTANT MEDICAL SUPERINTENDENT**

The administration has to strike a balance between internal management and community expectations maintaining positive relation with the staff and patients on one side and other health related community organization on the other side. Administration is a very wide terminology. Role of hospital administrator: towards patients, towards community, towards organization. Hospital information system (HIS) includes: medical records, billing & payment, operational planning & budgeting, patient feedback system, two way communication, inventory management, and control functions.

OPERATIONS IN PARAS:-

Headed by Operations head, followed by assistant manager and then executives, Operations is considered as the main part of any hospital. The hospital has recorded a significant growth within a short period. Some performance highlights are:-

- According to sources, bed occupancy rate in dec 2014 was 69.72%, however it slightly decreased in the month of jan 2015 to become 62.63%, but again it increased in feb 2015 to become 72% and in march it was 80%.
- Number of inpatients admission per month is 1000 approx.
- At present, hospital is 350 bedded, out of which 228 are operational beds.

- **Below is the classification of beds in hospital:**

CCU = 10

CTVS =09

MICU = 14

SICU = 14

NICU = 07

B₂ICU=24

3RD GENERAL WARD =36

3RD DELUXE= 17

3RD B₂ DELUXE= 17

2ND GENERAL WARD=36

2NDDELUXE=17

2ND B₂= 17

EMR_{OBS} = 10

- **Bed categories and charges are as follows:-**

General ward= Rs.1,950/-

Twin sharing= Rs.3,500/-

Single= Rs.5,100/-

Deluxe= Rs.6,500/-
VIP Suite= Rs.10,500/-

- **Doctor visit charge:-**

Doctor's visit in wards is twice per day and more than twice in case of emergency.

General ward= 500*2

Twin sharing= 600*2

Single= 700*2

VIP Suite= 1500*2

- **Daily check list in operations:-**

- ☆ daily report/ patient interaction
- ☆ check list for HWC/VIP
- ☆ feedback collection against discharge
- ☆ post discharge calls
- ☆ LAMA sheet updation

- **Per day check:-**

- ☆ plan discharge
- ☆ OT cases
- ☆ total inpatients

OUT PATIENT DEPARTMENT

Paras HMRI Hospital is having an excellent outpatient services. Approximately 400 patients come daily in OPD that is around 12,000 patients per month. There are 2 OPDs named as OPD 1 and OPD 2. OPD 1 is for Registration and Report & OPD 2 is for Investigation and Consultant billing. OPD in paras is located on ground floor and first floor. Having ample space in waiting area, and other facilities like drinking water, washrooms nearby, this department serves day patients in a best of its own kind. Having highly experienced consultants, and prominent diagnostic services, outpatient services are on its peak. OPD timing is 9 am to 5 pm (Monday to Saturday). There are total 27 doctors chambers with 5 procedure rooms on ground floor and around 20 doctors chambers with procedure rooms on first floor. A refraction room is attached with ophthalmology OPD. A sample collection room is also present in OPD area. There are three types of patients who come to OPD. One is walk in patients, second is referral patients and third is previous in patients. When a patient comes, first of all he faces reception/may I help you counter. He asks for

information and the Customer Care Executive of this counter guides him and gives the information needed and asked. Then patient moves to OPD 1 for registration process. After registration, he OPD 2 for billing purpose/payment of consultant fees, etc. After this he waits in respective waiting area and goes inside the consultants chamber when his term comes. Nurse of OPDs play an important role here. As they are responsible to maintain OPD register and enlisting of patients' name. After consultation, doctor may advice some diagnostic tests, some procedure, medicines or admission, depending upon condition of patient.

Following OPDs are on ground floor:-

- General surgery OPD
- Internal medicine OPD
- Orthopedics OPD
- ENT OPD
- Plastic surgery OPD
- Dentistry OPD
- Gynecology OPD
- Ophthalmology OPD
- Pediatrics OPD, etc

Following OPDs are on first floor:-

- Gastro OPD
- Oncology OPD
- Nephrology OPD
- Cardiology OPD

Now let us have a look on various super specialties areas of hospital.

CARDIOLOGY

- **Institute of Cardiac Sciences:-** Paras HMRI Hospital is having great expertise in the field of cardiology. Paras HMRI Hospitals, Cardiology team comprises of experienced and highly qualified doctors like Dr. Pramod Kumar(Director, Cardiology), Dr. Anand Gopal, Dr. Manish

Gunjan, Dr. Vaibhav Vikash, and many other expertise doctors. They have created a new milestone in bihar's healthcare by treating and saving number of lives. They have proved that bihar can also rise in terms of advanced and complex cardiac surgeries. The hospital is having cardiac OPD on first floor. Nearby cardiac OPD, well-structured ECHO room, ECG room, TMT, PFT and CPK rooms are present for patient's ease. There is 1 ECHO machine, 1 TMT (Tread Mill Test) machine, 1 ECG machine and 2 Holters in cardiac department. Time duration in normal ECHO is 10 minutes, abnormal ECHO is half an hour, TMT is half an hour, holter is half an hour, and ECG is 10 minutes. These are non-invasive tests. On an average, the hospital performs 40 ECHO per day, 50 ECG per day, 2 holter per day and 15 TMT per day (OPDs). There are 2 portable ECHO machines in IPD too for bed-side procedures if needed. There is ample of space in cardiac OPD waiting area. The hospital is also expertise in various cardiac surgeries like Open heart surgeries, Angiography, Angioplasty, Bypass Surgeries and also Cardio Thoracic Vascular Surgeries.

Cardio Thoracic and Vascular Surgery Department(CTVS) :-

Located on fifth floor nearby Operation theatre and Pre-OP/Post-OP, CTVS Department offers a well equipped tertiary care centre, fully adept to handle a range of clinical services to effectively treat and perform both adult as well as pediatric heart surgeries. The team of reputed cardio vascular surgeons like Dr. S K Sinha(Director, CTVS), Dr. Arvind Goyal and Dr. Atul Mohan Srivastava are well experienced to handle a range of complex and high risk cases. CTVS team is complimented by hi-tech operation theatres and ICU to provide a holistic approach based on ethics, quality care and professional expertise at affordable rates.

The CTVS team is well staffed by a team of well trained CTVS Surgeons, Cardiac anaesthetists, trained cardiac care nurses, health educators, dieticians and rehabilitative staff to provide personalized care as per well-defined international protocols.

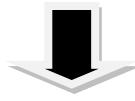
The CTVS team is complimented by a state-of-the-art cardiac operation theatre which is well equipped with laminar air flow, high tech operating microscope and all the relevant surgical and diagnostic tools used by cardiothoracic surgeons to deliver precise and successful results.

CTVS IN PARAS HMRI HOSPITAL



CARDIAC SURGERY TRAUMA

- Beating heart CABG traumatic
- Total arterial revascularization TVS
- Redo CABG
- MID CAB
- Valve replacement
- Valve repair
- Congenital surgery
- Congenital Defects
- ASD / VSD/ TOF / PDA



THORACIC SURGERY

- ✦ lung tumour resection
- ✦ lobectomy
- ✦ pneumonectomy
- ✦ segmentectomy
- ✦ decortication of lung



VASCULAR SURGERY

- major reconstructive surgeries

MILESTONES IN CTVS :-

- Completed more than 250 cardiac surgical procedures in the 1st year with results comparable to best institute of the world.
- Almost all CABG done offpump facilitating faster recovery and better results.
- First minimal invasive cardiac surgery of this region was performed at this institute which is now routinely available to our patients.
- Rapid response team of cardiac surgeons have successfully saved several patients of stabbing and gun shot injury to heart and great vessels.

SPECIALTIES IN CTVS:-

- **Beating heart Surgery(OP-CAB) :-** Beating heart CABG Surgery allows the heart to continue beating while the surgery is being performed. The heart does not need to be stopped. To make it easier to work on a moving/beating heart, the surgeon uses a device called “tissue stabilizer” which immobilizes the small section of the heart that needs the bypass graft, while the rest of the heart beats. A “heart positioner” is typically used to position the heart for access to the blocked coronary artery. It is a specialized procedure performed by skilled cardiac surgeons.

- **Minimal Invasive OPCAB :-** Minimal Invasive Heart Surgery is a latest mode of surgery which increases the patients' compliance and decreases the hospital stay and the patient can resume his work 3 times earlier as compared to the conventional CABG. It can be further defined as performing surgeries with small incisions like mid-CAB, OPCAB via thoracotomy, etc.
- **Awake Open Heart Surgery:-** Described as the least invasive cardiac surgery. Patients here given mild sedatives - resulting in dropping of their heart rate, but the patient remains 'awake' and responsive to the commands. It is the latest technique in cardiac surgery and is performed at selected few specialized centres of excellence. The major advantage of this process of surgery is it avoids patients going on ventilators and thus avoids ventilator induced complications, infections and its cost. ALOS of patients in this case is approximately 3 days.
- **Redo – CABG :-** It is a specialized surgery, since it has high risk conditions to be taken into consideration. Paras Hospitals CTVS Team specializes in performing the same and has exhibited high success rates in the past for the same.

Charitable Initiatives:- A ray of hope to BPL Patients and patients belonging to weaker sections. The CTVS Team works with Chaudhary Ved Ram Nagar Trust and the team has had the privilege of performing a number of cases on charitable and compassionate grounds. A number of patients from economically weaker sections of society and BPL have given support for the same.

NEUROLOGY

The hospital's neurology OPD is situated on Ground floor. Expertise neurosurgical and neurological doctors are there. They are capable to handle any kind of critical cases. Doctors like Dr. Mukund and Dr. Abhishek are pioneers in neurology. They are capable in handling all kinds of RTAs related to brain surgery.

ORTHOPEDICS AND JOINT REPLACEMENT

Paras hospital is popular for its orthopedics. Expertise doctor like Dr. John Mukhopadhaya's contribution has made this hospital to achieve new milestones and records in orthopedics arena. Complex surgeries like Total knee replacement surgery is performed here. According to

sources, approx 190 ortho cases are done every month. Orthopedics OPD is situated on the ground floor.

Joint replacement: Arthritis results in painful joints. Joint replacement is a procedure which makes the arthritic joints pain free so that one can get back to pain free mobility and carry on normal day to day life. The hospital's joint replacement team comprises of internationally acclaimed surgeons who are exclusively and extensively trained in the field of Joint replacement.

Procedures done here:-

- **Hip replacement:** total hip replacement, partial hip replacement, resurfacing hip replacement, revision (redo) hip replacement, ceramic hip replacement.
- **Knee replacement:** total knee replacement, partial knee replacement, patello femoral replacement, revision (redo) knee replacement.
- **Shoulder replacement:** partial and total shoulder replacement.
- **Elbow replacement:** primary and revision elbow replacement.
- **Replacement of small joints of hand:** for rheumatoid patients.

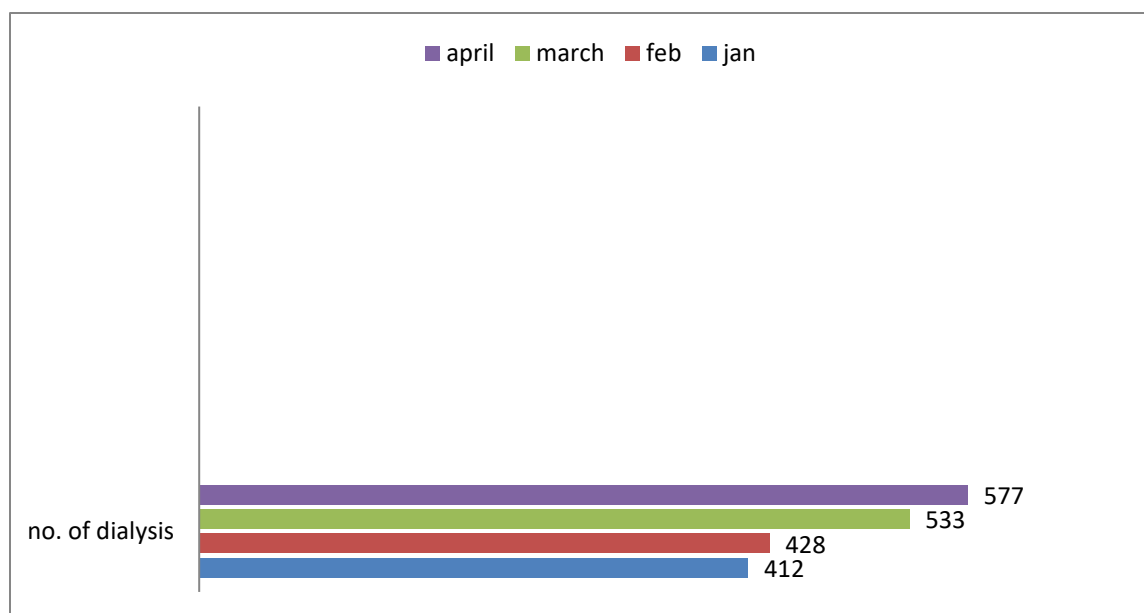
Spine care in paras: At paras, exclusive Spine Surgeon and Team are available to provide comprehensive care for all Spine Problems. Procedures done are Deformity Correction, Fracture Stabilization, Minimal Spine Surgery, Tumor and Infection of Surgeries, Revision Spine Surgery. Arthroscopic Surgeries Procedures are also done.

ONCOLOGY

The hospital is also gaining popularity for its oncology department. The hospital has a well developed departments for chemotherapy and radiation oncology. Doctors like R N tagore are here. Oncology OPD is situated on first floor.

RENAL SCIENCES

Located on first floor along with gastro and oncology OPD and also Preventive health checkup department, renal OPD and dialysis is a boon for patients of kidney related problems. According to sources, dialysis figures are as follows:-



DIALYSIS UNIT :

- Dialysis unit is present on first floor near nephrology OPD. It is a well structured unit having 11 beds (8+1), 8 general beds and 1 isolation bed.
- 8 dialysis machines are there (movable)
- Major medicines, equipments and consumables used are Dialyser, Blood tube line, IV set, Fistula needle, Normal saline, Heparine, Erythropoitia (hemoglobin maintaining drug).
- An electronic weighing machine is fixed. Callibration of weighing machine is done. Validity of one year.
- A nurse station is there.
- A crash cart is there.
- One single procedure for dialysis takes 4 hours. And after a gap of 15 minutes, second procedure for other patient can be started.
- A booklet is given to the patient in which all previous records and details of patient and next date of visit is mentioned.
- Patient file is maintained by hospital in which assessments and consents are present.
- RO plant is established.
- Dressing kit is present.
- According to hospital's policy, a person who is HIV positive, is not admitted for dialysis.
- Manpower in dialysis is 12 (1 consultant, 1 senior resident, 2 senior technicians, 3 technicians, 3 nurses, 2 GDAs)
- Three shifts for dialysis: 8 am to 12 pm, 12:30 pm to 4:30 pm, 5 pm to 9 pm.
- On an average, 23-24 patients come for dialysis daily.

- Tariff : OPD basis = Rs. 2,600/-, IPD basis = Rs. 3,900/- (ICU), Rs.2,600/- (general), Rs.3,600/- (deluxe patients).
- TPA (Third Party Associates) can claim for his/her insurance as per hospital's policies in dialysis process.

GASTRO SCIENCES

Gastro OPD is located on the first floor. Doctors like Dr. Ramesh, Dr. Vijay, Dr. Utpal Anand are here in gastro. The gastroenterology and hepatology centre at Paras HMRI Hospital, is devoted to the clinical care of patients with gastrointestinal and liver disorders. The hospital has state of the art endoscopy centre, fully equipped to offer comprehensive diagnostic and therapeutic endoscopy services. Various diagnostic endoscopic procedures and therapeutic endoscopic procedures are done here. Gastrointestinal surgery, gastrointestinal oncology and minimal access surgery is also done. Various colorectal surgeries are procedured.

Gastro OPD area is well managed in the way that flow of patients is always smooth there. Doctor's chambers, endoscopy room, procedure room, dirty utility room, clean utility room all are in sequences.

In endoscopy room, endoscopic machine, procedure tally, crash cart, oxygen-cylinder, Di-thermy are present. Endoscopy is done in 5 minutes, Colonoscopy is done in 30 minutes and ERCP is done in 1 hour. In procedure room, C arm is present.

IN PATIENT DEPARTMENT:

The patients who require hospitalization and are hospitalized are called In patients and the department is called In patient department. The whole cycle in In patient department starts from hospitalization and ends on discharge. Hospitalization may be in ICUs or in wards depending upon condition of patient. In paras, two types of patients can be hospitalized. One is OPD patients and other emergency patient. An emergency patient is triaged before hospitalization. In other words, we can say that hospitalization can be of three types: Emergency hospitalization, Planned hospitalization and Day care hospitalization (no night stay is required). Paras HMRI Patna is having following bed categories:

- VIP Suite (2nd and 3rd floor)
- Deluxe Room (2nd and 3rd floor)
- Single room (2nd and 3rd floor)
- Twin Sharing (2nd and 3rd floor)

- General Bed (2nd and 3rd floor)
- Day Care
- Critical Care Unit (CCU)/CTVS ICU (4th and 5th floor)
- Medical ICU/Surgical ICU (4th floor)
- Neuro ICU (4th floor)

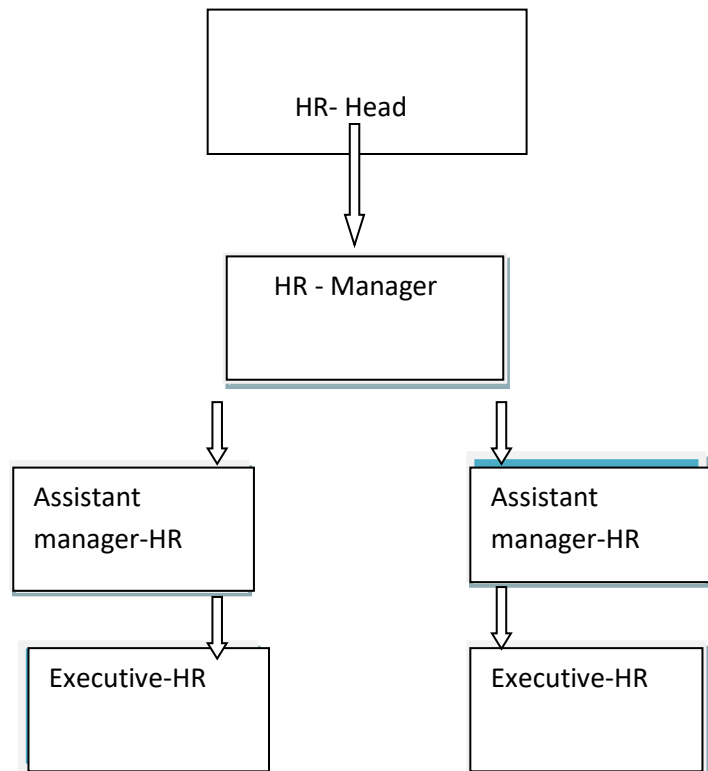
Each floor having wards and ICUs is having well developed nursing stations having well qualified nurse over there. General wards also having separate nursing stations. A well developed computer with all necessary softwares and internet connection is available on each nursing station. Phones are also available and extension numbers of all departments and staffs are written over there for convenience. When a patient is hospitalized, first of all nursing assessment is done, then initial assessment by RMO (Resident Medical Officer) is done. Consultants visit two times daily to see a patient and in case of emergency, visits can be more with extra consultation fees. Nutritional assessment is also done by dietician. Average length of stay for a patient is approximately 3-4 days (it can be increased as per patient's condition and type of treatment). Doctor's assessment is made by consultant under whom a particular patient is undergoing treatment. Admission department, Administration employees, nurses, doctors, ward boys, billing department, operations, housekeeping staffs, linen and laundry department, kitchen etc all plays an important role in this process flow. Finally when, patient becomes fit then doctor approves discharge. Then nurse marks for discharge and clearance from billing, etc is done after that. Each and every patient is to be given a discharge summary at the end of his/her hospitalization. This also includes patients of medico legal cases and Leave Against Medical Advice Patient (LAMA). This summary needs to be signed by the treating doctor or a member of his/her team. Contents of a discharge summary: patients name, unique identification number, date of admission, date of discharge, time of admission, reasons for admission, findings, diagnosis, investigation results, procedures performed, medications administered, follow up advice, medicines to be taken, when and how to obtain urgent care, In case of death, death summary and cause of death.

Following are the types of discharge and documents to be given by hospital to patient:

s. no.	Categories	Documents to be given
Normal discharge	Discharge summary is provided	Original investigations reports & films are provided to the patient
LAMA	LAMA Summary is provided	Original investigations reports & films are provided to the patient
MLC	Discharge summary is provided	Original investigations reports & films are not provided to the patient. Only photocopies are provided
Death	Death summary is provided	Original investigations reports & films are provided to the patient.

HUMAN RESOURCE MANAGEMENT: Total number of employees in this department = 7 (HR-Head, HR-Manager, 2 Asst. managers, 2 Executives and 1 Office boy)

Organogram:



Fire safety, ACLS (Advanced Cardiac Life Support) and BLS (Basic Life Support) trainings are provided.

- **Credentialing and clinical privilege:** Credentialing is a formal process of assessing a health care professional's credentials in relation to his professional role within hospital. Clinical privileges represent the range and scope of clinical responsibility that a professional may exercise in the facility. These are specific to the individual, in a single health care facility or group of facilities and relate to the resources, equipment and staff available.
- **Job description of employees :-** It is an explanation pertaining to duties, responsibilities and conditions required to perform a job. It is a summary of job, including the general nature of the work performed and level of the work performed.

HR- Head- *Control over 5 employees

*Grievance handling (member of vishakha committee)

HR-Manager- *Providing training to employees

*Grievance redressal

Assistant managers- *looks after employees provident fund issues, etc

*recruitment

*recruitment tracker

*engagement of employees, etc

Executives- *Joining and documentations

* updation of holidays, etc taken by employees, etc

- **Performance appraisal of employees :-** It is done in every financial year.

- **Manpower in paras patna** :- total 800 approx. (approx. 200 doctors, approx. 300 nurses and approx. 300 other staffs.)
- **Grievance handling** :- TAT<14 days(100%)

<u>Category of staff</u>	1 st report	2 nd report	3 rd report
Medical staff	HOD	DMS/AMS	MD/HR-Head
Nursing staff	Team leaders/Supervisors	ANS/DNS	NS/MD/HR-Head
General staff	Managers	HOD	HR- Head

Disciplinary procedure:-

Four steps process :- 1. Employee will report to unit HR

2. Preliminary investigation/inquiry by HR (principles of natural justice)

3. Enquiry report to head HR for action

4. Suitable action taken

- **Full and Final Settlement process:-** When employee leaves job, two processes are done
 - i). Exit Interview by HR- Head
 - ii). Clearance from all departments

COMMERCIAL AND FINANCE DEPARTMENTS

Total man power in commercial department = 30

Located on ground floor near Human Resource Department, this department is responsible to purchase each and every equipments used by hospital. First of all Indent (requisition) comes from the respective department regarding demand and then issued by purchase

department. List of materials is done alphabetically. Analysis is done by ABC (Always Better Control) and FIFO (First in First out). In ABC, always is of main importance that is, 70% value and 30% space. In FIFO, suppose there are 10 bottles in a cartoon and 8 are being used already, then before unpacking next cartoon, you have to empty the cartoon by drawing left 2 bottles in order to avoid expiry. In vendor management (process and criteria of selecting a good vendor), they generally look upon Delivery, Cost and Quality. Quotations are given by the companies who are willing to sale its equipments to the hospital as per hospital's demand. There are some forms also like Supply Registration forms, Documentation, etc.

Total man power in Finance department= 10

Located on ground floor, it is responsible to handle all the financial terms of hospital. Some of the key responsibilities of this department are:

- Financial planning, budgeting and reporting.
- Financial control.
- Negotiation and management of the hospital's funding allocation.
- Maintenance of accurate and auditable financial records.
- Accurate and efficient transaction processing of salaries, accounts payable and accounts receivable.

LINEN AND LAUNDRY DEPARTMENT:

Hospital management in modern era has become patient oriented. So, proper hygienic clothes make patients psychologically confident and infection free. Medical staffs also need to be in hygienic clothes. Linen and laundry department is located on ground floor. Main function of this department is to provide safe, clean, adequate and timely supply linen to user units of hospital at right time and right place. Hospital laundry receives all the linen material from different areas like ward, OT, OPD, and office area where they go process of sorting, washing, extracting, drying, ironing, folding, mending and delivery. Outsourced here in PARAS.

RADIOLOGY

Located on ground floor, radiology is considered very important for hospital. X-ray, Ultrasound, CT-scan, mammography, MRI are performed daily. AERB accreditation is very important in setting up a radiology. Paras HMRI radiology department is AERB accredited.

INFRASTRUCTURE:

- There are four zones in radiology:

Zone 01 is green zone – waiting area for patients as well as attendants

Zone 02 is blue zone- waiting area for patients only

Zone 03 is yellow zone- working area for employees

Zone 04 is red zone- no entry zone due to very high radiation area

- A reception counter with two customer care executives.
- Two x ray rooms having x ray machines of 750 ma and 550 ma respectively.
- CR Room
- Mammography room
- MRI Room
- Reporting room
- Doctors room
- Change room
- Ultra sound room (bed side ultrasound also if patient required)
- Ultra sound machine also portable
- CT procedure is done on PET CT scan machine. Very soon a CT scan machine will be established

KINDS OF PATIENTS:-

Three kinds of patients in radiology:-

- Walk in patients : patients undergoing treatment by some other doctor where radiology facilities are not present.
- Emergency patients : patients from emergency area of PARAS.
- Referral patients : patients referred by doctors of PARAS.

PRECAUTIONS AND SAFETY MEASURES:-

- CT Scan and MRI area are very strong magnetic and radiation area. Before undergoing such procedures a consent form need to be filled by patient or attendant.

- If any doctor suggests mammography to female below 35 years of age, then prescription form is needed.
- If any doctor suggests mammography to a pregnant female, then mammography is done through ultrasound that is called Sono mammography and also PNDT(pre natal diagnostic test) form need to be filled by patient.
- TLD card wore by employees if working in radiation area. In a fixed period of time, testing of TLD card is done and if the value measured is more than 9 units then that very employee will undergo rest for one year approx.
- TLD card is being changed in every three months.
- GDAs wear lead apron while working in radiation area.

No. of X-ray machines = 2 (in radiology) and x ray machines are on each floor for bed- side x ray if required by the patient. All are portable.

No. of procedures per day = 100 approximately

Ultrasound = Ultrasound report to be handled on the same day(maximum 3 hours)

X-ray = If X- ray done before 2 pm then report to be handled till 6 pm same day and if after 2 pm then till 12 pm next day.

Ideal TAT in radiology exceeds because there is a rush of OPD patients, emergency patients, sometimes IPD patients and preventive health checkup patients simultaneously. An ideal TAT also depends upon manpower and facilities.

EMERGENCY SERVICES:

Located on ground floor with ample parking facility outside, emergency is backbone of hospital.

Four zones:



FLOW CHART

Patient comes to emergency(source ambulance,etc)



Goes to triage(Red zone)



Casualty Medical Officer(CMO) looks up and decides which doctor will see the patient



CMO also decides whether the patient will move to yellow zone , black zone or will remain in red zone



As per ACLS protocols, life saving supports are given



After deciding about the doctor, admission is done



After stable condition, patient moves to either ICU, OT or IPD

**note = red zone means critical area, yellow zone means less critical area, green zone means billing and admission area, black zone means death area*

It is the duty of CMO to identify whether the case is Medico legal or simple. If in case medico legal, then an FIR is logged in the nearby police station.

Minor OT is also present.

AHU present (Air handling units)

CAFETERIA :

Brewberrys cafeteria (ground floor) and mess (first floor)

KITCHEN :

Ground floor near gas manifold. Kitchen contract with MAHPL.

STORE :

Ground floor near administration block.

IP PHARMACY(in patient pharmacy):

Ground floor near linen and laundry department. First of all Inden (requisition) comes from a particular department regarding demand then medicines are issued. Storing is done alphabetically. Narcotic drugs are the drugs having sleep inducing properties. For storage of narcotic drugs IP Pharmacy is having Double-locked Almirah System. First key of which is with pharmacy incharge and second is with nursing department. LASA (Look Alike Sound Alike) Drugs are having color coding mechanism. Look alike drugs are having yellow color coding and Sound alike drugs are having pink color coding. There are three types of licenses for IP pharmacy: drug license, narcotic license, and food license. Non moving items undergoes supply return. Drugs which are life saving are called Vital Essential Desirable (VED), if not essential at a particular time, still kept in stock always. Inventory management means creating a purchasing plan that will ensure that items are available when they are needed (but that neither too much nor too little is purchased) and keeping track of existing inventory and its use. Ideal inventory days is equal to 15 days and in paras it is 17-18 days.

Formula for inventory = (total value of stock/total value of daily sales)*Inventory days

OPD PHARMACY :

Location = ground floor near OPD 1.

CHEMOTHERAPY UNIT :

- Chemo therapy unit is located on first floor near oncology OPD. It is a well structured unit having 10 beds.
- A nurse station is there.
- A crash cart is there.(crash cart is an equipment in which all kinds of live saving drugs , etc are present that can be used in case of any emergency).
- One extra oxygen cylinder is present.
- Drug preparation room is present.
- On an average in a month, around 150 patients come for chemotherapy treatment.
- Dirty utility room is present.

PREVENTIVE HEALTH CHECKUP DESK:-

Located on the first floor near cardiology OPD and doctor's lounge, this desk comprises of an executive, a billing staff, a nurse and a GDA. Waiting lounge for patients and change rooms for males and females are attached to it. A separate sample collection room for PHC patients is present. Nearby PHC desk, Audiometry room, TMT room, ECHO room and PFT rooms are present, because cardiology OPD is also there.

LABORATORY SERVICES:

- 24*7 working laboratory
- Located on first floor
- Sample collection room (ground floor near OPD)
- A requisition counter is there
- Lab services: biochemistry, hematology, clinical pathology, microbiology, histopathology
- A grossing room is there
- A store is there
- Total six refrigerators are there
- Incubators are there
- Bio safety cabinet is there
- Hot air oven is there
- Crystal microtome automatic

- Vitros ECI machine
- Vitros S I machine (bio chemistry)
- Vitros 250 (bio chemistry)
- Report dispatch is done on OPD 1

BLOOD BANK:-

Located on the first floor near laboratory, 24*7 blood bank facility is there. Blood bank is considered very important for any hospital. There are two types of blood donation in hospital: one is voluntary donation and other is replacement donation. Blood bank is having national aids control organization's (naco) license. In a single attempt, one unit of blood can be taken from donor that is 300 ml or 350 ml.

First of all, if a patient requires blood then a blood requisition slip on which patient's id and sample is mentioned is presented. Then, attendant's counselling and motivation is done by the counsellor in order to donate blood. After this, donor form is filled up by donor and testing of donor is done. Physical examination is also done. Questionnaire is also filled. Then donor moves to donation room and donates blood. After this relaxes and refreshes in refreshment room.

INFRASTRUCTURE AND MANPOWER

- Two gates for entry. One for common people (donors) and other for employees.
- Counter for forms
- Counsellor's desk
- Hod room
- Waiting area
- Donation room (two couches and one television)
- Autoclave room
- Refreshment room
- 1 doctor(HOD), 7-8 technical staffs, 2 GDAs

Types of machines:

- The blood bank of paras hmri is having platelets apheresis machine- equipment to check whole blood (no where in bihar and jharkhand)

- Crash cart with check list
 - Blood collection monitor in donor room
 - Centrifuge machine
 - Separator – when components are ready, then separation by separator
 - Separated components of blood (whole blood, PRBC, FFP, PVP, platelets) are kept in sealed packets and then stored
 - Equal balance
 - Laminar air flow
 - Platelet agitator
 - Deep freezer refrigerator for unscreened FFP(-78)- NO POWER CUT
 - Deep freezer refrigerator for PRBC unit(03)
 - Terumo penpol df 40u
 - Programmable deep freezer for screened FFP
 - Plasma tawing bath
 - Freeze for reagents storage
 - Freeze for sample storage(samples stored for one week after use)
 - Freeze for advanced blood storage
 - ECI machine in which donor's blood can be monitored for hiv, etc
 - Cross match unit refrigerator (grouping and cross matching)
 - VDL card machine
 - Autoclave machine is also for rejected blood. Rejected or expired or leakage blood is firstly sealed, and then sterile in autoclave, then discarded
 - No de- fibrillator in blood bank, when code blue (cardiac arrest) is announced, then it is brought from emergency
- Note:- Prior to blood transfusion, consent from the patient by explaining the complete procedure is necessary.

BIO MEDICAL WASTE MANAGEMENT:-

Considered as important part of hospital. 10 types of wastes generated in hospital:

- Anatomical wastes(organs,etc)
- Animal wastes
- Solid wastes
- Liquid wastes
- Microbiological and Pathological wastes
- Chemical wastes
- Soiled wastes(linen wastes)

- Psychotoxic wastes and medicine wastes
- Sharp wastes like glass items, needles, etc
- Incinerator wastes(ash)

After segregation, this becomes of 5 types.

Puncture proof container	Blue	Red	Yellow	Black
All sharps, blades and broken glass Example: Needles, blades, broken vials and ampoules	Unbroken glass used injections vials, expired medicines, unbroken injections, unbroken ampoules, Unbroken glass, syringes	All infected plastic wastes like catheters, URO bags, IV sets, gloves, plastic bottles, urine/stool container, blood bags, ryle's tubes, drainage tubes	All anatomical and pathological wastes and materials contaminated with blood or body fluids	Kitchen wastes and office wastes like food items, paper, card board, non infected plastic covers

Some

important instructions:-

- Do not recap the needles
- Dispose the needle in plastic container
- Wastes to be cleared from hospital within 48 hours of segregation
- In paras patna, bio medical waste storage is nearby gas manifold and AC plant in the back of hospital and the wastes are dispatched for incinerating in the nearby incinerator plant located near IGIMS hospital.

INFECTION CONTROL IN HOSPITAL:-

The hospital is having well qualified infection control nurses. They are also responsible to create awareness among employees and patients regarding infection control.

Types of spills in hospital:-

- Minor spill (less than 20 cc)
- Major spill (more than 20 cc)

If the spill is minor then any expertise person can clean the spill with protection , but if the spill is major then code orange (spill code) is announced and expert designated team clears spill with the help of spill kit.

Types of infection:

- UTI – Urinary Tract Infection to patients
- VAP -
- CRBSI – Central line infection to patients
- Needle stick injury – infection to staffs

Personal Protective Equipment (PPE):- Gloves, Caps, Masks, Gowns are said to be PPEs. To be used on entry in CCUs and ICUs.

OPERATION THEATRE:

ORGANOGRAM OF OT

HOD (ANESTHESIA)

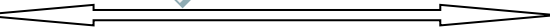


MANAGER (OT)

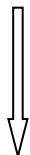


OT SUPERVISOR/INCHARGE

OTSUPERVISOR/INCHARGE



(TECHNICIAN)



(NURSING)



TECHNICIANS

NURSING STAFFS

- 24*7 working OT
- Location = fifth floor
- Headed by (HOD, Anesthesia)
- OT manager
- Normal temperature of OT is 22 degree celcius
- Manpower is sixty.
- 24*7 anesthesia team
- Divided in 3 zones:-
 - I) Sterile Zone
 - II)Clean Zone
 - III)Unsterile Zone
- High risk area with centralized monitors
- Number of operation theatres = 8 (6 are functional)
- Approximately, 500 to 550 OT cases are handled per month in paras hmri patna
- There is a separate cath lab for Angioplasty, etc.(not included in these 8)
- OT 1 and 2 is for ortho cases. But in case there are more surgeries from say, general surgery department, then OT 2 is allotted for that case of general surgery. But OT 1 is always fixed for ortho surgeries as there are more ortho cases in hospital.
- OT 3 is surgical OT.
- OT 4 is ENT OT.
- Positive – Negative air flow is maintained.
- Hepa filters installed, Hepa filters breaks very minute microbes too, cleaning of hepa filters is done after every 1 year.
- 70% utilization of OT in between 8 am to 8 pm.
- Crash cart with check list present.
- Oxygen cylinders available always.
- C-arms responsible for radiation exposure so TLD cards wore by employees.
- OT tables, Surgeon light, Tunicate machine, anesthesia machine, electro surgical generator (Di- thermic), laparoscopy machine, pediatric set, monitor, light source, HD camera, microscopes for neuro OT
- There should be a gap of 30 minutes between two surgeries for cleaning purpose.

- Weekly fumigation is done and culture is send to lab, if there is any problem in report then again fumigation is done.
- If 4 hours delay in any OT case, then it is a part of rescheduling. Within 24 hours rescheduling.
- **Pre – op and Post- op in OT :-** Pre – op is a place where patient is brought before any surgery.

Post – op is a place where patient is brought back after surgery.

- There are around 16 beds in pre and post op.
- Two nursing counters are there in pre and post op.
- A patient scheduled for any surgery, when brought in pre-op , a wrist band with his name and IP number is present on the patient's wrist. So that there is no confusion if two patients are having same name.
- When patient comes in pre-op, then nursing staff of pre-op receives the patient with a smiling face.
- Ideal stay of a patient in pre-op is 30 minutes
- When surgical procedure is done then patient is brought to post op
- All necessary vitals are checked
- Stay in post op depends on condition of a patient.
-

INTENSIVE CARE UNIT:

Located on fourth floor, this critical area is well managed and structured. There are 10 beds in CCU (Critical Care Unit), 09 in CTVS, 14 in MICU (Medical ICU), 14 in SICU (Surgical ICU), 07 in NICU(Neurological ICU), and 24 in B₂ICU.

Some features in hospitals' ICUs:

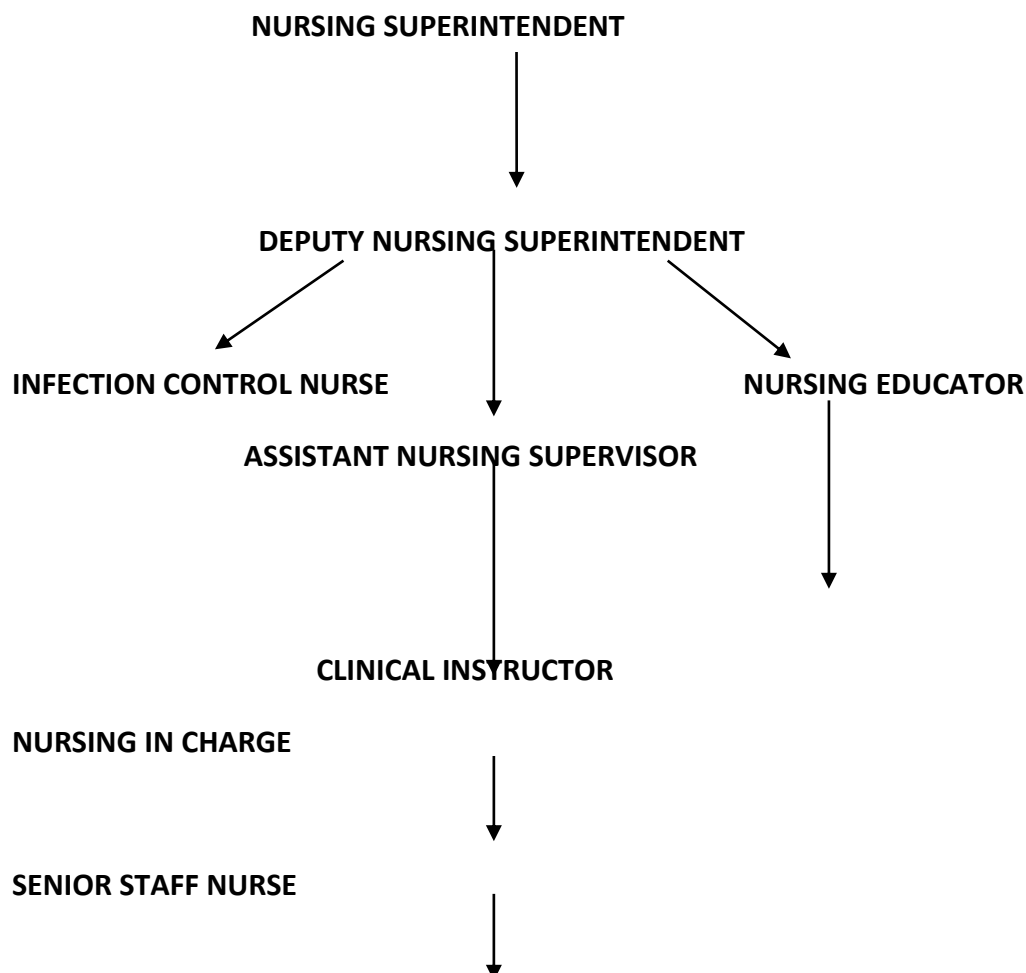
- 4 axis beds are present
- Bathroom for drainage of patient's urine and stools
- Dirty and clean utility rooms
- Monitors monitoring patient's vitals etc. attached to each bed
- Suction tubes (negative pressure coming directly from gas plant) is attached to each bed, indicators color coded: vaccum;yellow , medical air;black , oxygen;white
- Syringe pump + IV fluid stand present near each bed

- When a patient undergoes ICU treatment, a consent form is mandatory to be filled by attendant i.e. called UMBRELLA CONSENT
- Intubation, CVP, and arterial consent is filled individually
- Isolation room is present for patients of communicable disease (under protection patients)
- Ventilators (Servo ventilator 300)
- De-fibrillators
- Prayer room is there

NURSING DEPARTMENT:

For any hospital, nurses are the major contributors in patient's care. Basically centered on third floor this department trains and manages nurses. Nurses who serves mankind and thus contributing a lot in smooth functioning of hospital. In paras, well versed and qualified male and female nurses are present.

ORGANOGRAM OF NURSING DEPARTMENT



JUNIOR STAFF NURSE



NURSING ASSISTANT

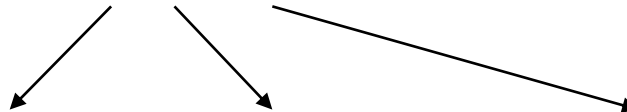
CSSD:-

ORGANOGRAM OF CSSD

HEAD (DEPUTY MEDICAL SUPERINTENDENT)



IN CHARGE CSSD



SENIOR TECHNICIAN

JUNIOR TECHNICIAN

GDAs

At present there are total 12 staffs in CSSD.

CSSD of hospital is well managed. Located on sixth floor of hospital, it is responsible for sterilization of various equipments used in hospital.

MACHINES:-

- **Autoclave machine:** responsible for steam sterilization like surgical sets and dressing sets. There are two autoclave machines in CSSD. A printer attached to autoclave machine prints all the on going procedures inside. Life of autoclave instrument pack is 72 hours. Life of autoclaved pad cotton, Gamzi is 21 days and the packed set has indicator tape which must indicate black color stripes.
- **Ethylene trioxide machine (ETO):** responsible for gas sterilization like ambu bags, catheters, etc. A proper room of ETO machine is there having exhausted fan and a pipe for dirty air and gases exhaustion. ETO sets have life of 6 months.

Some noteworthy points:-

- There should be no dust in CSSD. CSSD is a dust free area.
- CSSD is a dry area.
- Sterile area is of restricted entry. Use PPEs while entering.
- Issue counter and receiving counter is there.
- All works done by RO water. Per day maintenance department checks the standards of RO water.
- Life of open vials is 1 month, life of open bottles is 3 months.
- When any surgical set is issued then it is counted according to check list and after surgery when received back then also counted.
- Chemical indicators are placed daily and biological indicators once a week in every load in each cycle.
- Biological indicators are taken out of ETO machine and send to path lab for culture test, if positive then machine is cleaned again and test is repeated.

MEDICAL RECORDS DEPARTMENT:-

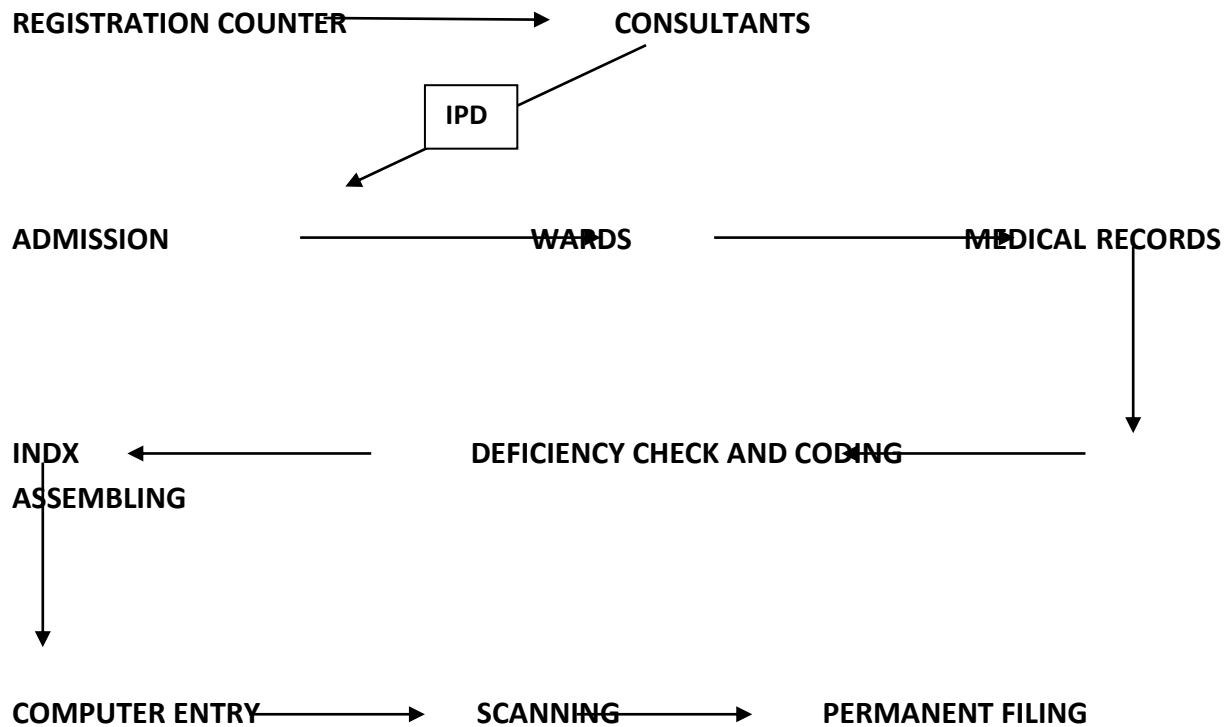
- Located on sixth floor MRD is responsible for storing and updating patient's files. MRD bridges the gap between medical and non-medical departments. It is headed by Medical Superintendent. MRD maintains a proper medical record of In patients and Emergency patients. The medical record is readily accessible for providing continuing patient care by medical and other staff, and permit retrieval of information for medical education, research, quality assurance activities, and statistical data. Man power in MRD = 1 senior executive, 1 executive and 1 GDA.

HOSPITAL STATISTICS TO BE PROCURED BY MRD:-

- MONTHLY NO. ADMISSION CONSULTANT & SPECIALITY WISE
- MONTHLY NO. SURGERY CONSULTANT & SPECIALITY WISE
- OUT PATIENT NO. CONSULTANT & SPECIALITY WISE
- BED OCCUPANCY RATE
- AVERAGE LENGTH OF STAY
- GROSS & NET DEATH RATE
- MLC DETAILS

- NOTIFIABLE DISEASE

FLOW OF MEDICAL RECORDS:-



NUMBER SYSTEM FOLLOWED IN MRD:-

- The unit numbering system is followed .
- When first registered in the hospital the patient is assigned a number which remains same for all his subsequent visits.

The terminal filing system may be followed

- The first two digits are tertiary,
- The next two are secondary & the last two are primary.
- The primary digit remains constant. Eg 127, 227, 327, 427.
- A tracer card is also present. It contains record no, consultants name and date of retrieval.

COMPUTER ENTRY IN MRD:-

- The entries such as issues, receipts, updates, indexing (diseases and procedures) are done on a daily basis.
- This plays vital role to view the location of various files.
- The file types such as Volumes No., IP, OP, MLC, EXPIRED are also to be included in the entries.
- The monthly and yearly statistics are to be prepared.

FILE CODING IN MRD:-



NOTE: MLC FILES SHOULD BE KEPT IN LOCK AND KEY.

QUALITY DEPARTMENT:-

Located on sixth floor, this department is responsible for improving and maintaining quality care. All kind of quality audits are done by this department. Headed by manager, this department is having an assistant manager too. This department is also responsible to formulate and revise policies of other departments.

MARKETING DEPARTMENT:-

Located on sixth floor, it is responsible for marketing of hospital. It organises various health camps in many states and districts. It communicates with various organizations.

IT DEPARTMENT:-

Located on sixth floor, it handles and solves all computer and telephone related problems. It is responsible for smooth and fast working of hospital.

GAS MANIFOLD:-

- Centralized oxygen tank behind human resource department.
- Gases types: oxygen, carbon dioxide, nitrous and vacuum
- If in case, any leakage from anywhere, say patient's bed side, then alarm buzzes near bed and gas manifold office
- 24*7 duty hours
- Color coding of gases: yellow = vacuum, blue = oxygen, white = carbon dioxide

NUCLEAR MEDICINE:-

We know that there are three ways to treat cancer. One is surgical oncology, other is chemotherapy and one more is radiation therapy. Located in the basement area, nuclear medicine is responsible for radiation therapy. In nuclear medicine, 90% of the patients come suffering from cancer.

Paras hmri hospital is having two ways to give radiation to patients. One is linac, in which patient is given radiations externally. This process is done by linac machine and when the process is going on, then that very room is interlocked. No one be in that area, except patient. Even who gives radiation, observes the patient through a closed circuit camera

Other is nuclear medicine. In this case, radiation is injected directly to patient's body. Patient becomes radioactive for some times.

Therapy is also done (brachy therapy)

The hospital is having linac, pet ct -machine , brachy suite, etc

Department is started with doctor's chamber (dr. Deep shankar parashar), then patient waiting area (ample of space), linac 1 (functional), linac 2 (non functional), then brachy suite, after brachy suite, there are caution signs every where. Pregnant ladies and breast feeding mothers are not allowed in that area due to radiation.

Nuclear medicine gives anatomical as well as physiological results

Treatment in paras in nuclear medicine:-

Igrrt

Imrt

Vmat

Brachy therapy

Palliative care

Steps for linac radiation:-

Planning in tps

Transfer to control room

Execution

MAINTENANCE DEPARTMENT:-

This department is responsible for all kinds of maintenance in hospital. Installation of air conditioners, etc and time to time check is done. All kinds of maintenance is done. Contract is with AVM.

HOUSEKEEPING:

The hospital's house-keeping services comprises of activities related to cleanliness, maintenance of a healthy environment and good sanitation services, keeping the hospital premise free from pollution.

Outsourced here in PARAS. The hospital has employed 7 staff: executive housekeeping, manager housekeeping, 4 supervisors and housekeeping executive. Manpower description: 207 GDAs, 6 GDA supervisors, 113 house-keeping staff and 6 house-keeping supervisors. GDA contract with Shine and Standards.

PARKING FACILITIES:

PARAS is having ample space of parking in its campus.

Conclusive learning, Limitations and Suggestions for Improvement:

An overview of Hospital was studied. Ethical considerations were kept in mind. No personal data of hospital was asked to share. During study, patients' and employee's comfort zone was kept in mind. No personal questions were asked.

Some suggestions for Improvement: PARAS HMRI Hospital is running very efficiently and effectively. There is no doubt that Hospital will reach at an outstanding level soon. As hospital is new, it will take some time to establish in a more effective and efficient way. The way in which Hospital is performing, it will soon gain more and more popularity. Management is all about working in a effective and efficient way with optimum usage of available resources. Same is the case of hospital management.

SECTION 2 (PROJECT REPORT)

PROJECT REPORT :

INTRODUCTION :

India faces the twin epidemic of continuing/emerging infectious diseases as well as chronic degenerative diseases. Disease burden of India is high. Diseases that are heavily concentrated among working age adults is HIV/AIDS, Cardiovascular diseases (CVD), Tuberculosis, etc. There is a devastating effect of diseases like TB, Asthma, Cardio Obstructive Pulmonary Diseases (COPD), heart diseases, etc on patient as well as family members. If an individual is healthy, then ultimately he will be successful in all manners and will contribute a lot to society as well as to nation. In order to meet the growing demands of the competitive world, most of us tend to ignore our health until we are compelled to confront a medical complication. To cope up with a rising risk of the medical disorders, health monitors have become mandatory. We all say that prevention is better than cure. After all, most health issues can be managed more effectively if detected earlier. There has been an explosion of high tech diagnostic, therapeutic, and preventive interventions in the field of medicine and surgery. According to a recent speech during inauguration of a hospital in Mumbai, our honourable Prime Minister Mr. Narendra Bhai Modi said that Preventive healthcare is important to cut medical bills. In other words we can say that prevention means convenience.

In India, Non – communicable diseases accounts nearly 53 % of deaths and based on available evidence cardio vascular diseases (24%), chronic respiratory diseases (11%), cancer (6%) and diabetes (2%) are the leading cause of mortality in India. Preventive health check up helps us to identify any disease if present and thus means preventive care. Efficient and effective services of screening, early diagnosis of any disease if present and prompt and timely treatment can lead to reduce global burden as well as Indian burden of disease too.

The preventive health check up offered by PARAS HMRI Hospital is a comprehensive check up that screens a person's health closely and step by step. It also serves as a personal medical

record for future reference. Once the check is being completed, if treatment is required it can begin without delay. In PARAS HMRI Hospital, approximately 325 PHCs in one month.

SWOT Analysis of PHC:

Strengths

Expertise consultations, well versed and active employees

Weaknesses

Decentralization, more time consuming, time constraints for doctors

Opportunities

Can raise level of patient satisfaction by efficient time management.

Threats

Other commercial hospitals providing PHC check in lesser time and thus achieving more patient satisfaction.

RATIONALE:

In this competitive era, Time is the most important factor considered. People do not want to waste their single second. Moreover, patient satisfaction is utmost. Despite of heavy out of pocket expenditure, people come to private hospitals for treatment because they think that they will get best medical facilities, constant care and reliable support in a short time span with ease and comfort.

REVIEW OF LITERATURE:

Despite of uncertainties about mortality and burden of disease estimates, there is a substantial gain in health conditions. Due to awareness, people are coming forward by themselves for preventive health check up. They are ready to devote their time for well being. In this case,

responsibilities of health care providers increases. They should be able to provide optimum health services to people at right time without any delay.

Time constraints limit the ability of doctors to comply with preventive service recommendations. Despite evidence of the effectiveness of preventive services and the development of published national guidelines, actual rates of delivery health care services remain low. Several studies have investigated why preventive services delivery rates are low. The most common barriers identified are lack of time during the office visit, inadequate insurance reimbursement, patient refusal to discuss or comply with recommendations, and lack of physician expertise counselling techniques. Consistent with the finding that time is a salient barrier, Zyzanski and colleagues have shown that high-volume physicians perform fewer preventive services. Although a recent study showed that time spent in office visits has increased slightly in the past decade, doctors continue to claim that not having enough time is a barrier to performing preventive services. Most patients require more than 1 or 2 preventive services each year.

RESEARCH QUESTION/S:

- (1).What is/are the reason(s) of increased turn around time in preventive health check up?
- (2).What should be done in order to improve turn around time in preventive health check up?
- (3).What is the level of patient satisfaction here?

SPECIFIC OBJECTIVE(S):

- (1).To study the movement of patients in preventive health check up process.
- (2).To analyse the gaps found.
- (3).To give appropriate recommendations.

MODE OF DATA COLLECTION:

Study was descriptive analytical and qualitative. Time duration was one month. Target population were patients of preventive health check up in PARAS HMRI Hospital. Sample size was 300 and mode of sampling was simple randomized sampling. Study was observational. 300

patients who came for preventive health check up in hospital were observed minutely and precisely. Tools used were questionnaire/feedback forms.

DATA COMPILATION, ANALYSIS AND INTERPRETATION:

Preventive health check up department purpose is to conduct a comprehensive set of preventive health program tests based on disease risk profile, age and gender and to identify ant diseases in pro active manner and suggest life style changes and treatment plan. PHC coordinator is the responsibility person here.

Steps of preventive health check up in PARAS HMRI Hospital:

- First of all, if a patient wants to undergo preventive health check up in hospital, then a prior appointment is needed. In other words, appointment basis tests are done. If in case, any walk in patient comes, then depending upon the number of patients that day and depending upon the situation, the patient can be considered.
 - Time duration for entire test is 2 days. Ideal turn around time of one PHC is 4 hours for day 1 and 2 hours for day 2.
 - Twelve hours fasting is mandatory before check up.
 - Two types of patients come for PHC. One is cash patient and other is corporate patient. PARAS HMRI Hospital is having corporate tie ups with Life Insurance Corporation of India (LIC), IRCON INTERNATIONAL, SJVN, Bank of India (BOI), Intelligence Bureau (IB), Indian Institute of Technology, Patna, and Patna High Court. Marketing department is having an important role in case of corporate patients. (Note: Third Party Associates) TPA Patients cannot reimburse in PHC).
-
- There are total 9 packages in PHC. Below are some descriptions regarding this :

MASTER CHECK: (worth Rs. 2,999/- + Rs. 100/- as registration fee)

Lab investigations include:

- Complete haemogram with ESR (Erythrocyte Sedimentation Rate)
- Blood group
- Liver function test
- Kidney- urea, creatinine
- Lipid profile

- Blood sugar fasting and PP
- PAP smear for females
- Serum calcium and phosphorous
- Stool routine and microscopy
- Urine routine and microscopy

Radiology investigations include:

- X- Ray
- Ultrasound whole abdomen

Cardiology investigations include:

- ECG

Specialist consultations include:

- Physician
- General surgeon consultation for males
- Gynaecologist consultation for females
- Ophthalmologist

EXECUTIVE CHECK: (worth Rs. 3,999/- + Rs. 100/- as registration fee)

Lab investigations include:

- Complete haemogram with ESR (Erythrocyte Sedimentation Rate)
- Blood group
- Liver function test
- Kidney- urea, creatinine
- Lipid profile
- Blood sugar fasting and PP
- PAP smear for females
- Serum calcium and phosphorous
- Stool routine and microscopy
- Urine routine and microscopy
- TSH (Thyroid Stimulating Hormone)

Radiology investigations include:

- X- Ray
- Ultrasound whole abdomen

Cardiology investigations include:

- ECG
- TMT
- PFT

Specialist consultations include:

- Physician
- Cardiologist
- General surgeon consultation for males
- Gynaecologist consultation for females
- Ophthalmologist
- Dietician

HEART CHECK: (worth Rs. 3,999/- + Rs. 100/- as registration fee)

Lab investigations include:

- Complete haemogram with ESR (Erythrocyte Sedimentation Rate)
- Blood group
- Liver function test
- Kidney- urea, creatinine
- Lipid profile
- Blood sugar fasting and PP
- Serum calcium and phosphorous
- Stool routine and microscopy
- Urine routine and microscopy
- TSH (Thyroid Stimulating Hormone)

Radiology investigations include:

- X- Ray
- Ultrasound whole abdomen

Cardiology investigations include:

- ECG
- TMT
- PFT
- ECHO

Specialist consultations include:

- Physician
- Cardiologist
- Dietician

PREMIUM CHECK: (worth Rs. 8,999/- + Rs. 100/- as registration fee)

Lab investigations include:

- Complete haemogram with ESR (Erythrocyte Sedimentation Rate)
- Blood group
- Liver function test
- Kidney- urea, creatinine
- Lipid profile
- Blood sugar fasting and PP
- Serum calcium and phosphorous
- Stool routine and microscopy
- Urine routine and microscopy
- TSH (Thyroid Stimulating Hormone)
- PAP smear for females
- PSA for males
- Glycosylated haemoglobin
- CRP
- Uric acid
- "S electrolytes (Sodium, Potassium and chloride)
- Alkaline phosphatase
- Urine microalbumin
- Stool for occult blood
- TSH
- T₃
- T₄

- 25 Hydroxy vitamin D- total
- OPG (dental scan)
- Audio meter

Radiology investigations include:

- X- Ray
- Ultrasound whole abdomen
- Ultrasound breast for females
- Mammography for females

Cardiology investigations include:

- ECG
- TMT
- PFT
- ECHO
- CPK

Specialist consultations include:

- Physician
- Cardiologist
- General surgeon consultation for males
- Ortho surgeon consultation
- Gynaecologist for females
- Ophthalmologist
- ENT
- Dermatology
- Dental
- Dietician

WHOLE BODY CHECK: (worth Rs. 7,999/- + Rs. 100/- as registration fee)

Lab investigations include:

- Complete haemogram with ESR (Erythrocyte Sedimentation Rate)
- Blood group
- Liver function test

- Kidney- urea, creatinine
- Lipid profile
- Blood sugar fasting and PP
- Serum calcium and phosphorous
- Stool routine and microscopy
- Urine routine and microscopy
- TSH (Thyroid Stimulating Hormone)
- PAP smear for females
- PSA for males
- Glycosylated haemoglobin
- CRP
- Uric acid
- Stool for occult blood
- TSH
- T₃
- T₄
- 25 Hydroxy vitamin D- total
- OPG (dental scan)

Radiology investigations include:

- X- Ray
- Ultrasound whole abdomen
- Mammography for females

Cardiology investigations include:

- ECG
- TMT
- PFT
- ECHO
- CPK

Specialist consultations include:

- Physician
- Cardiologist
- General surgeon consultation for males
- Ortho surgeon consultation

- Gynaecologist for females
- Ophthalmologist
- Dental
- Dietician

WELL WOMEN CHECK: (worth Rs. 1,999/- + Rs. 100/- as registration fee)

Lab investigations include:

- Complete haemogram with ESR (Erythrocyte Sedimentation Rate)
- Blood group
- Blood sugar fasting and PP
- Stool routine and microscopy
- Urine routine and microscopy
- CRP
- Uric acid
- Stool for occult blood
- 25 hydroxy vitamin- D total

Radiology investigations include:

- X- Ray
- Ultrasound whole abdomen
- Ultrasound breast for females
- Mammography for females

No cardiology investigations

Specialist consultations include:

- Physician
- Gynaecologist consultation for females

DIABETIC CHECK: (worth Rs. 2,399/- + Rs. 100/- as registration fee)

Lab investigations include:

- Complete haemogram with ESR (Erythrocyte Sedimentation Rate)
- Blood group
- Kidney- urea, creatinine
- Lipid profile
- Blood sugar fasting and PP
- Glycosylated haemoglobin
- Urine routine and microscopy
- Uric acid
- Urine micro albumin
- SGPT

Radiology investigations include:

- X- Ray

Cardiology investigations

- ECG

Specialist consultations include:

- Physician
- Ophthalmologist
- Dietician
- Endocrinologist

CANCER CHECK: (worth Rs. 2,999/- + Rs. 100/- as registration fee)

Lab investigations include:

- Complete haemogram with ESR (Erythrocyte Sedimentation Rate)
- Blood group
- Liver function test
- Kidney- urea, creatinine
- Blood sugar fasting and PP
- PAP smear for females
- PSA for males
- Stool routine and microscopy

- Urine routine and microscopy
- Urine micro albumin

Radiology investigations include:

- X- Ray
- Ultrasound whole abdomen
- Mammography for females

CHILD HEALTH CHECK: (worth Rs. 1,199/- + Rs. 100/- as registration fee)

Lab investigations include:

- Complete haemogram with ESR (Erythrocyte Sedimentation Rate)
- Blood group
- Stool routine and microscopy
- Urine routine and microscopy
- Mantoux/PPD/Tuberculin
- OPG (Dental Scan)

Radiology investigations include:

- X- Ray

Specialist consultation include:

- Ophthalmologist
- Dental
- Paediatrics

FLOW OF PATIENTS IN PHC: DAY 1

PATIENT OR ATTENDANT TAKE PRIOR APPOINTMENT FOR PHC ON PHONE



CCE OR EXECUTIVE TELLS PATIENT REGARDING DOS AND DONTs



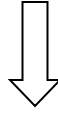
NEXT DAY PATIENT COMES AND REPORTS ON PHC FRONT DESK



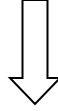
IF PRIOR REGISTERED PATIENT THEN NO NEED FOR REGISTRATION, IF NOT THEN REGISTRATION



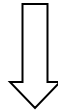
PATIENT GOES TO PHC SAMPLE COLLECTION ROOM FOR LAB INVESTIGATION PROCESS



PATIENT GOES TO RADIOLOGY FOR RADIOLOGY INVESTIGATION PROCESS



BREAKFAST PROVIDED TO PATIENT IN PHC WAITING LOUNGE



COUNSELLING OF PATIENTS BY HOD (DOCTOR)



TWO HOURS TIME IS NOTED MEANS IF A PATIENT TAKES BREAKFAST AT 10 AM THEN PP WILL BE AT 12 PM



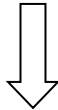
IN BETWEEN TWO HOURS DURATION REST OF THE TESTS THAT INCLUDES CARDIOLOGY INVESTIGATIONS, OPHTHAL, DENTAL, AUDIOMETRY, ETC ARE PERFORMED



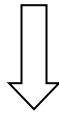
PP IS PERFORMED

FLOW OF PATIENTS IN PHC: DAY 2

PATIENT ARRIVES AT 11 AM ON PHC FRONT DESK



THEY ARE SENT TO SEE DOCTORS



FINAL SUMMARY FROM HOD



REPORT DISPATCHED TO PATIENT

***NOTE:** If the patient is corporate then report is not dispatched to him/her. It goes to marketing department with attached ID proof of employment, letter of annual check signed and stamped from authorized signatory, annexure 3 – (1 copy) (written statement by employee that he/she has undergone PHC from PARAS HMRI Patna) and annexure 4 – (2 copies), {1 to be in PHC}.

***NOTE:** Pre- employment health check up is also done in PHC as per hospital policy of employees health checkup. Nasal swab test is also done in case of pre-employment check up in order to prevent infections in hospital which can be spread by employee.

***NOTE:** PHC stands for Preventive health check up, PP stands for Postprandial, CCE stands for Customer care executive, HOD stands for Head of department.

***NOTE:** During updation of patient's detail at the time of appointment over phone or walk in, it is being asked that whether the patient is diabetic or not? 12 hours fasting is required. If the patient is taking any medicine, then he/she can have it in night but not in morning on the day of test. He/she will bring it with them and after blood tests will have it. It is advised to stop consumption of alcohol or cigarette, etc before 12 hours of test. An attendant is required with patient.

Study on 300 patients for one month. Out of 300 patients, 80 premium check patients were studied and rest were of other checks.

METHODOLOGY:

Patients of premium check, whole body check, diabetes check, master check, heart check, executive check, well women check, cancer check, corporate check and PARAS staff check were observed.

Study was observational. 300 patients were observed and different slot of time was noted.

PREMIUM CHECK PATIENTS WAITING TIME:

PROCESS 1 = LAB INVESTIGATION COMPLETION

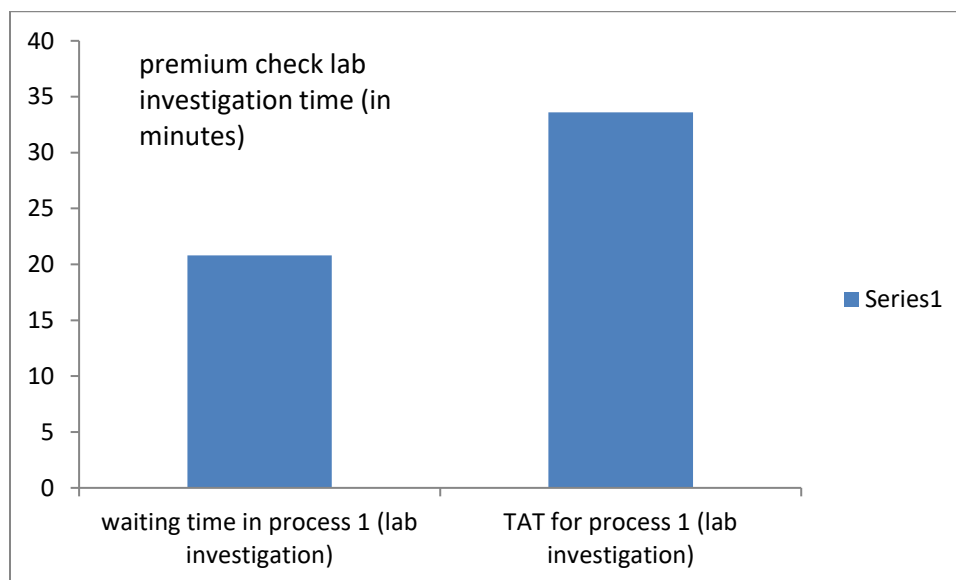
First waiting time was found between patient arrival and lab investigation. Waiting time of 1 patient = time of lab investigations started - time of patient arrival at PHC front desk. Similarly, Average waiting time of premium check patients = time of lab investigations started - time arrival of premium check patients at PHC front desk. After calculation it was 20.8 minutes.

Therefore, Average waiting time in process 1 = **20.8 minutes.**

Reasons: Registration, Billing process, Patient queries, Counselling by executive

Average time in completion of process 1 of premium check patients = (time of lab investigations started – time arrival of premium check patients at PHC front desk) + time of lab investigations completed. After calculation it was 33.6 minutes. Therefore, **average time** in completion of process 1(lab investigation) since arrival = **33.6 minutes.**

*NOTE: Separate sample collection room for PHC.



PROCESS 2 = RADIOLOGY INVESTIGATION COMPLETION

First waiting time was found between lab investigation completion and radiology investigation started. Waiting time of 1 patient = time of patient arrival in radiology – time of lab investigations completion. Similarly, Average waiting time of premium check patients = time of

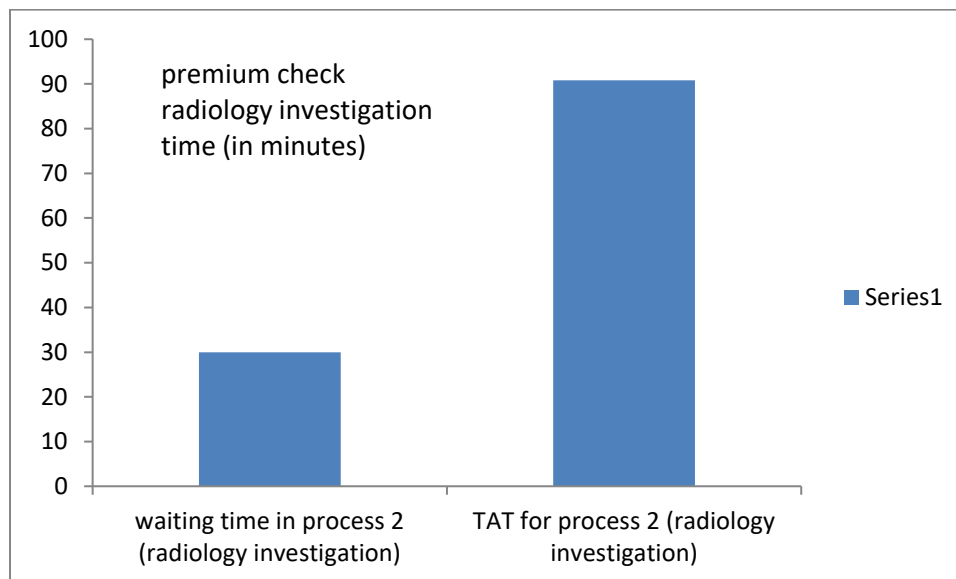
patients' arrival in radiology – time of lab investigations completion. After calculation it was 30 minutes.

Therefore, Average waiting time in process 2 = 30 minutes

Reasons: Uniform change, Radiology located on ground floor and PHC on first floor

Average time in completion of process 2 of premium check patients = (time of radiology investigations started – time of lab investigations completed) + time of radiology investigations completed. After calculation it was 90.8 minutes

Therefore, average time in completion of process 2 after completion of process 1 = 90.8 minutes.



*Note: radiological procedures consume more time because OPD patients, Emergency patients, some IPD patients and PHC patients come simultaneously. There is a huge rush. Sometimes, doctors of radiology department visit for rounds at the same time, resulting in delayed tests.

PROCESS 3 = CARDIOLOGY TESTS INVESTIGATION COMPLETION

First waiting time was found between radiology investigation completion and cardiology investigation started. Waiting time of 1 patient = time of patient arrival in cardiology – time of radiology investigations completion. Similarly, Average waiting time of premium check patients

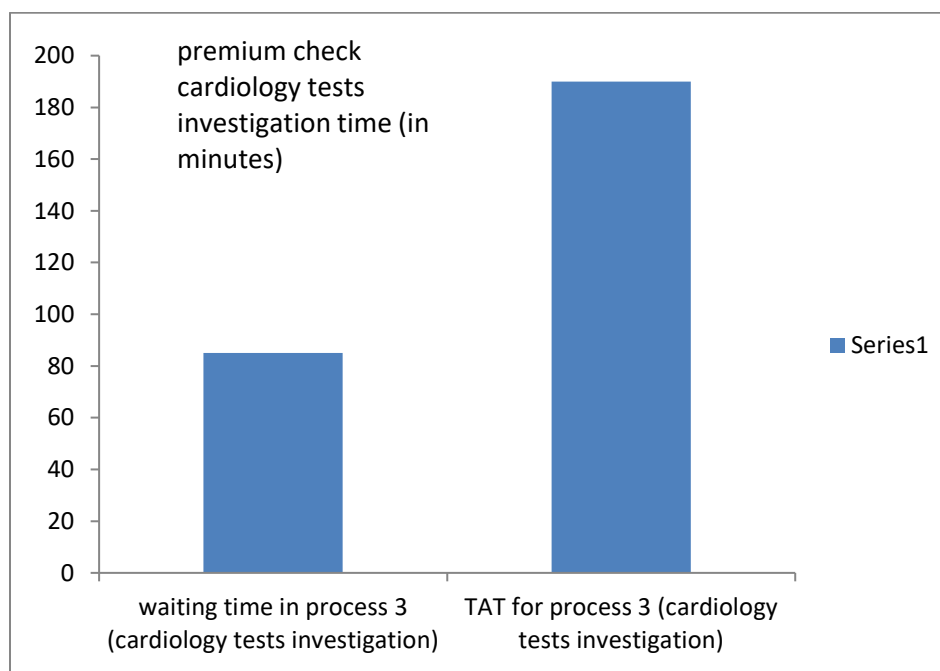
= time of patients' arrival in cardiology – time of radiology investigations completion. After calculation it was 85 minutes.

Therefore, Average waiting time in process 2 = 85 minutes

Reasons: breakfast given to patient, counselling by HOD

Average time in completion of process 3 of premium check patients = (time of cardiology investigations started – time of radiology investigations completed) + time of cardiology investigations completed. After calculation it was 195 minutes

Therefore, average time in completion of process 3 after completion of process 2= 195 minutes.



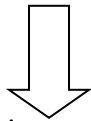
*avg. waiting time of cardiology includes breakfast + counselling by HOD time also.

PROCESS 4 = CONSULTATION/REVIEW COMPLETION

In premium check, there are 10 consultations. So time taken is more as compared to other checks. In observational study, these averages were found:

Patient came for review at PHC front desk

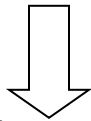
22.5 minutes



10 minutes

Physician consultation

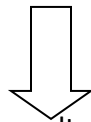
17.4 minutes



7.7 minutes

Cardiologist consultation

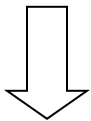
29 minutes



14 minutes

General surgeon consultation

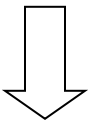
45 minutes



25 minutes

Ortho surgeon consultation

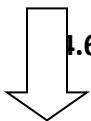
15 minutes



7.8 minutes

Gynaecologist consultation

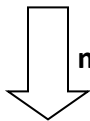
20 minutes



1.6 minutes

Ophthalmologist consultation

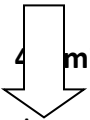
14.2 minutes



minutes

ENT consultation

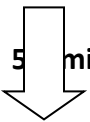
10.7 minutes



4 minutes

Dermatology consultation

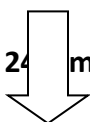
13 minutes



5 minutes

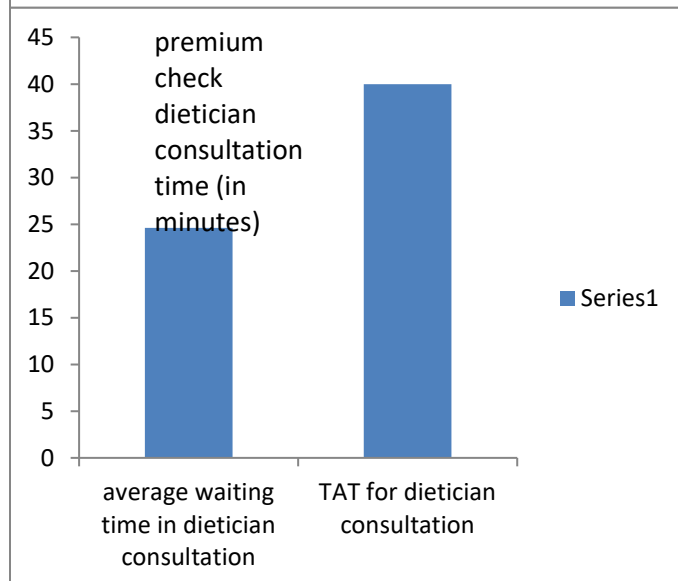
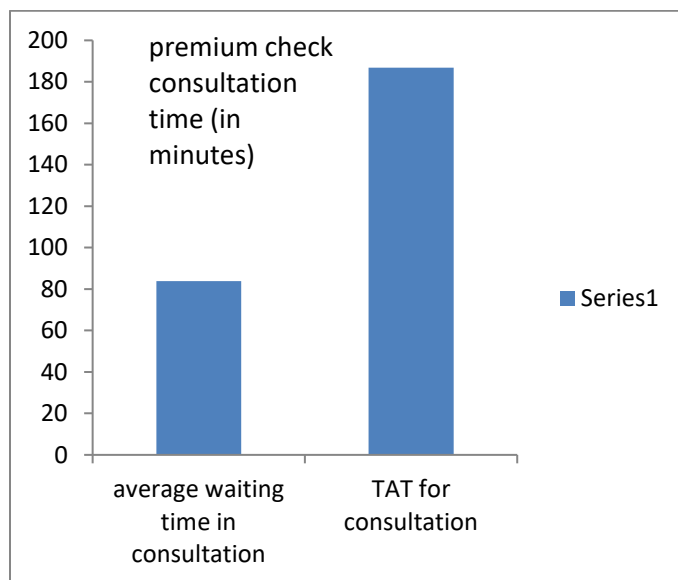
Dental consultation

40 minutes



24 minutes

Dietician consultation



WHOLE BODY CHECK PATIENTS WAITING TIME:

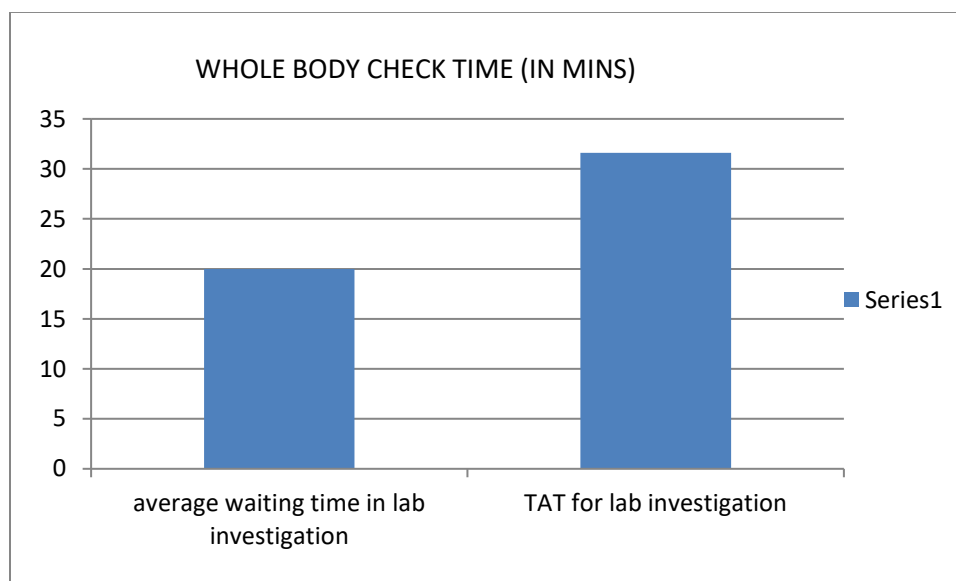
PROCESS 1 = LAB INVESTIGATION COMPLETION

First waiting time was found between patient arrival and lab investigation. Waiting time of 1 patient = time of lab investigations started - time of patient arrival at PHC front desk. Similarly, Average waiting time of whole body check patients = stime of lab investigations started - time arrival of whole body check patients at PHC front desk. After calculation it was 20 minutes.

Therefore, Average waiting time in process 1 = 20 minutes.

Average time in completion of process 1 of whole body check patients = (time of lab investigations started – time arrival of whole body check patients at PHC front desk) + time of lab investigations completed. After calculation it was 31.6 minutes.

Therefore, average time in completion of process 1 since arrival = 31.6 minutes.



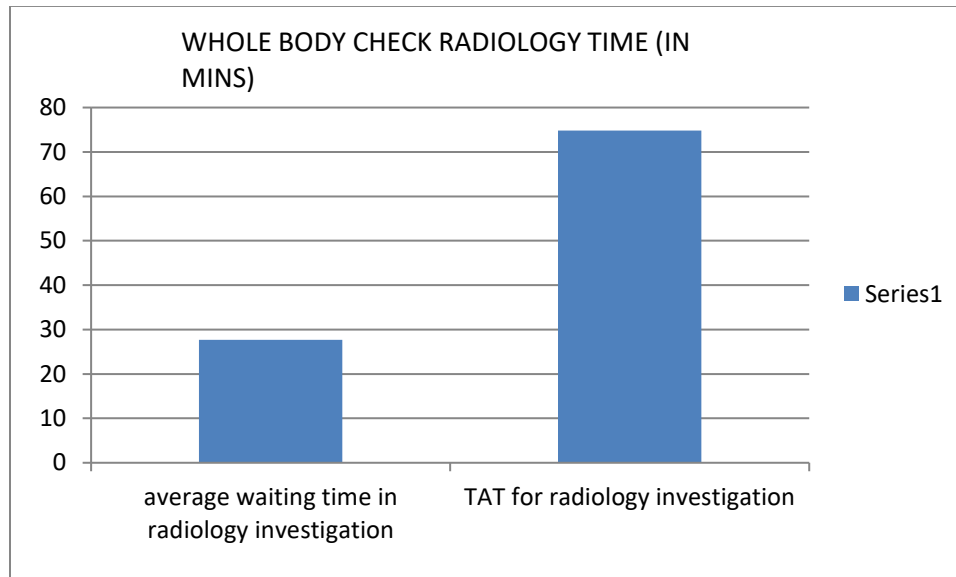
PROCESS 2 = RADIOLOGY INVESTIGATION COMPLETION

First waiting time was found between lab investigation completion and radiology investigation started. Waiting time of 1 patient = time of patient arrival in radiology – time of lab investigations completion. Similarly, Average waiting time of whole body check patients = time of patients' arrival in radiology – time of lab investigations completion. After calculation it was 27.7 minutes.

Therefore, Average waiting time in process 2 = 27.7 minutes

Average time in completion of process 2 of whole body check patients = (time of radiology investigations started – time of lab investigations completed) + time of radiology investigations completed. After calculation it was 74.8 minutes

Therefore, average time in completion of process 2 after completion of process 1 = 74.8 minutes.



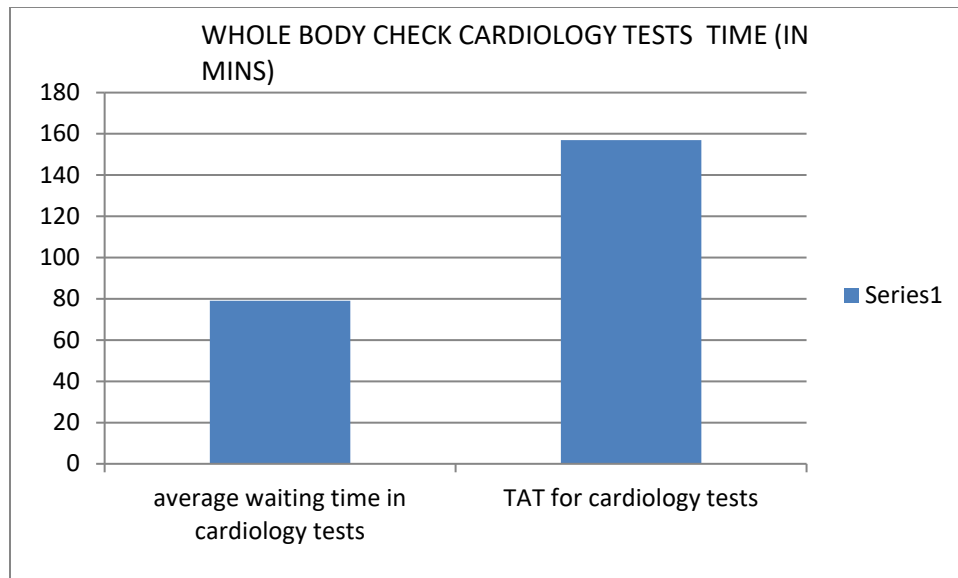
PROCESS 3 = CARDIOLOGY TESTS INVESTIGATION COMPLETION

First waiting time was found between radiology investigation completion and cardiology investigation started. Waiting time of 1 patient = time of patient arrival in cardiology – time of radiology investigations completion. Similarly, Average waiting time of whole body check patients = time of patients' arrival in cardiology – time of radiology investigations completion. After calculation it was 79 minutes.

Therefore, Average waiting time in process 2 = 79 minutes

Average time in completion of process 3 of whole body check patients = (time of cardiology investigations started – time of radiology investigations completed) + time of cardiology investigations completed. After calculation it was 157 minutes

Therefore, average time in completion of process 3 after completion of process 2 = 157 minutes.

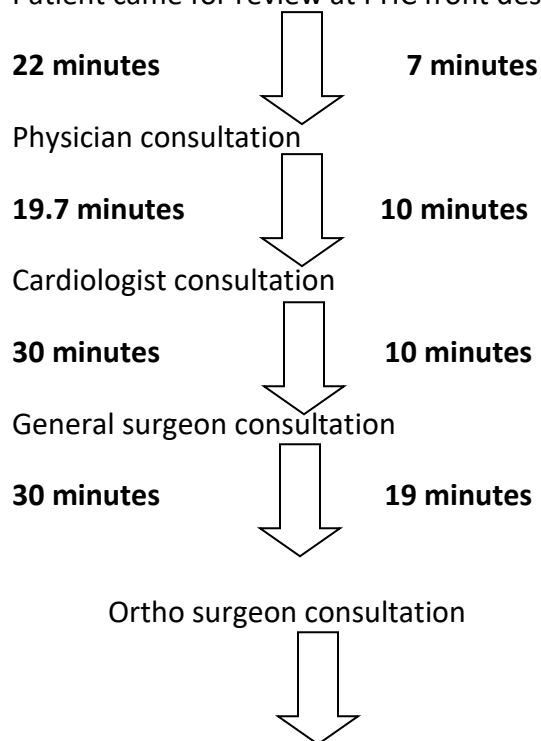


*avg. waiting time of cardiology includes breakfast + counselling by HOD time also.

PROCESS 4 = CONSULTATION/REVIEW COMPLETION

In whole body check, there are 8 consultations. In observational study, these **averages** were found:

Patient came for review at PHC front desk

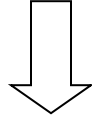


20 minutes

10 minutes

Gynaecologist consultation

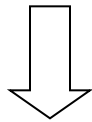
27 minutes



10 minutes

Ophthalmologist consultation

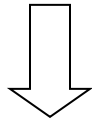
17.2 minutes



4.2 minutes

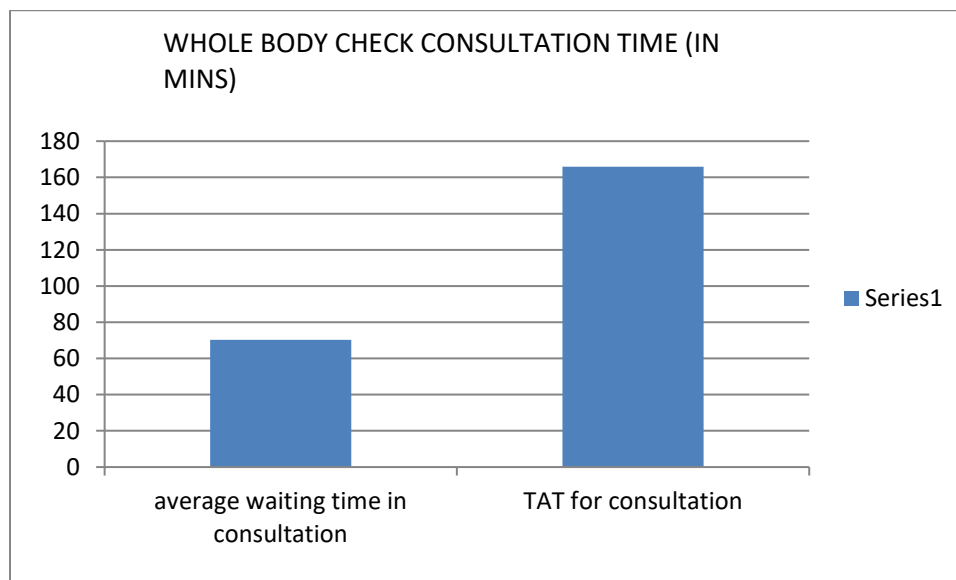
Dental consultation

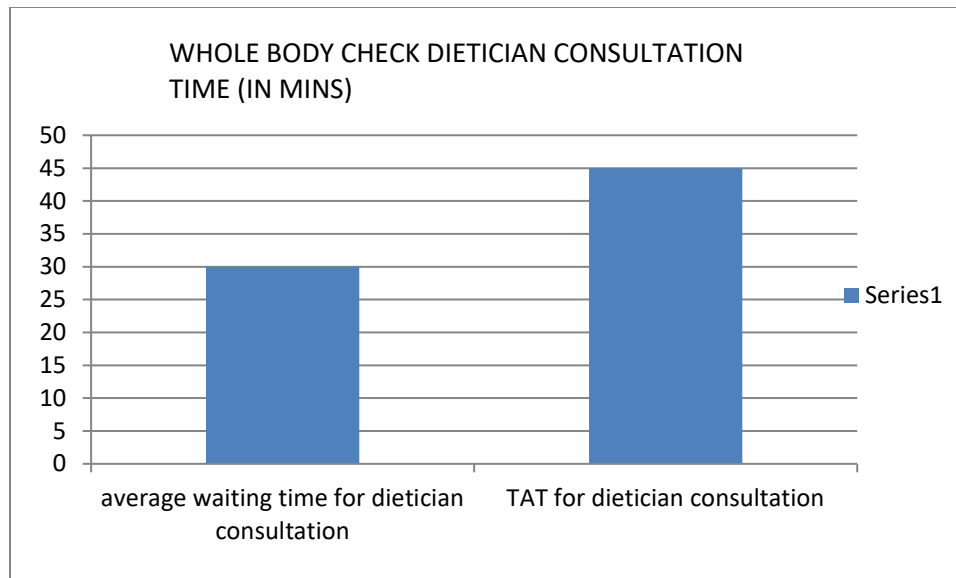
45 minutes



30 minutes

Dietician consultation





MASTER CHECK PATIENTS WAITING TIME:

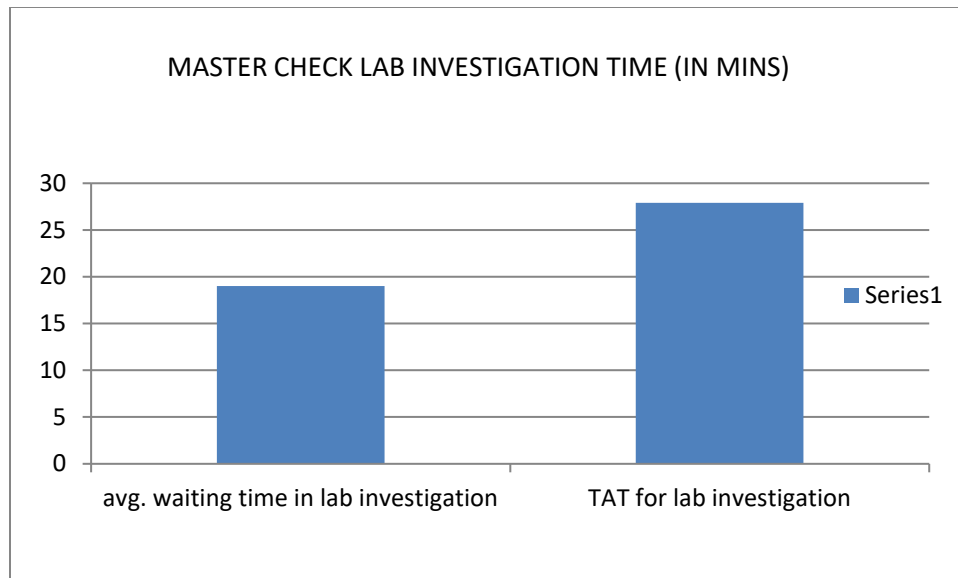
PROCESS 1 = LAB INVESTIGATION COMPLETION

First waiting time was found between patient arrival and lab investigation. Waiting time of 1 patient = time of lab investigations started - time of patient arrival at PHC front desk. Similarly, Average waiting time of master check patients = time of lab investigations started - time arrival of master check patients at PHC front desk. After calculation it was 19 minutes.

Therefore, Average waiting time in process 1 = 19 minutes.

Average time in completion of process 1 of master check patients = (time of lab investigations started – time arrival of master check patients at PHC front desk) + time of lab investigations completed. After calculation it was 27.9 minutes.

Therefore, average time in completion of process 1 since arrival = 27.9 minutes.



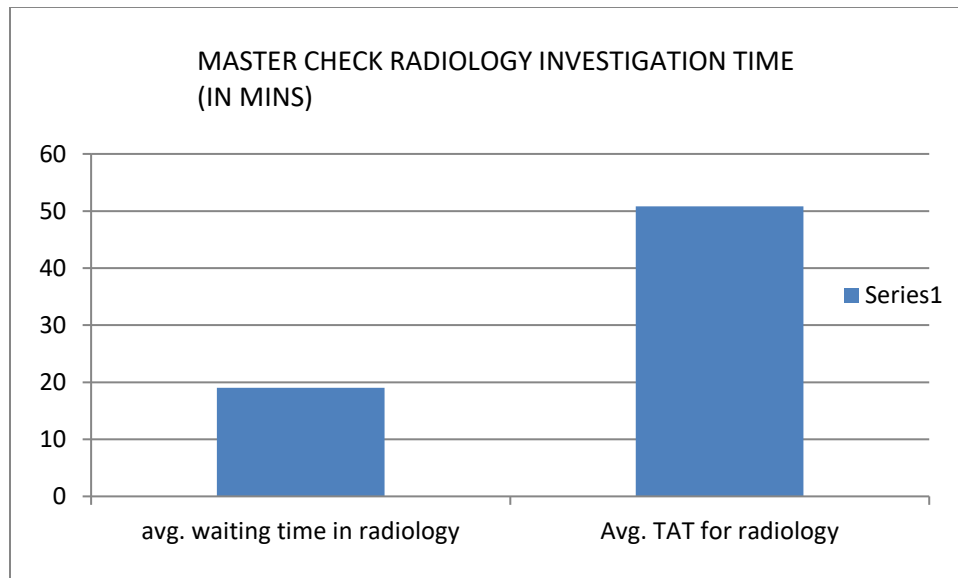
PROCESS 2 = RADIOLOGY INVESTIGATION COMPLETION

First waiting time was found between lab investigation completion and radiology investigation started. Waiting time of 1 patient = time of patient arrival in radiology – time of lab investigations completion. Similarly, Average waiting time of master check patients = time of patients' arrival in radiology – time of lab investigations completion. After calculation it was 19 minutes.

Therefore, Average waiting time in process 2 = 19 minutes

Average time in completion of process 2 of master check patients = (time of radiology investigations started – time of lab investigations completed) + time of radiology investigations completed. After calculation it was 50.8 minutes

Therefore, average time in completion of process 2 after completion of process 1 = 50.8 minutes.



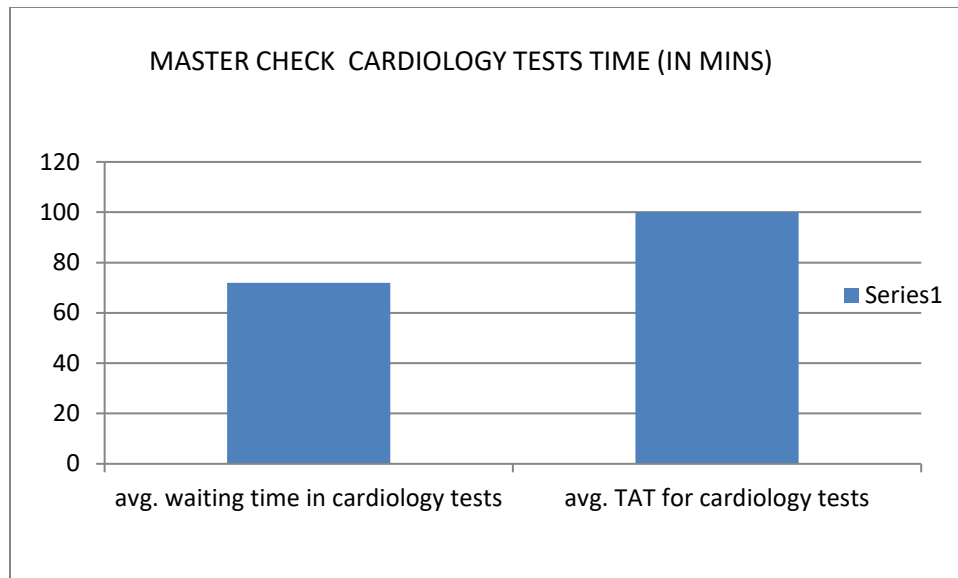
PROCESS 3 = CARDIOLOGY TESTS INVESTIGATION COMPLETION

First waiting time was found between radiology investigation completion and cardiology investigation started. Waiting time of 1 patient = time of patient arrival in cardiology – time of radiology investigations completion. Similarly, Average waiting time of master check patients = time of patients' arrival in cardiology – time of radiology investigations completion. After calculation it was 72 minutes.

Therefore, Average waiting time in process 2 = 72 minutes

Average time in completion of process 3 of master check patients = (time of cardiology investigations started – time of radiology investigations completed) + time of cardiology investigations completed. After calculation it was 100 minutes

Therefore, average time in completion of process 3 after completion of process 2= 100 minutes.

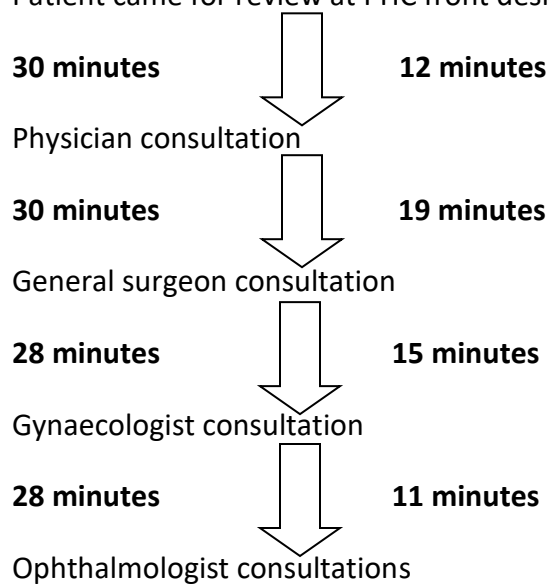


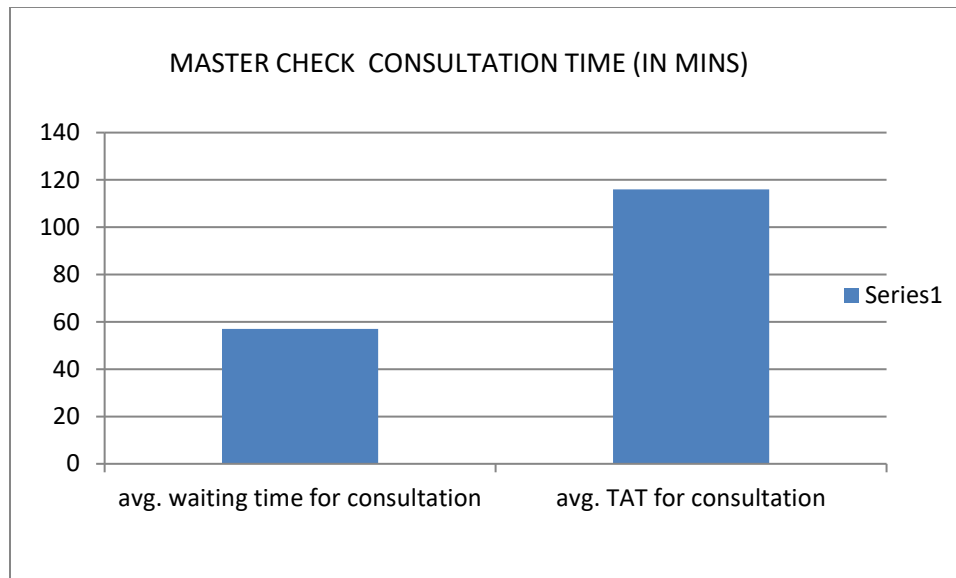
*avg. waiting time of cardiology includes breakfast + counselling by HOD time also.

PROCESS 4 = CONSULTATION/REVIEW COMPLETION

In master check, there are 4 consultations. In observational study, these **averages** were found:

Patient came for review at PHC front desk





EXECUTIVE CHECK PATIENTS WAITING TIME:

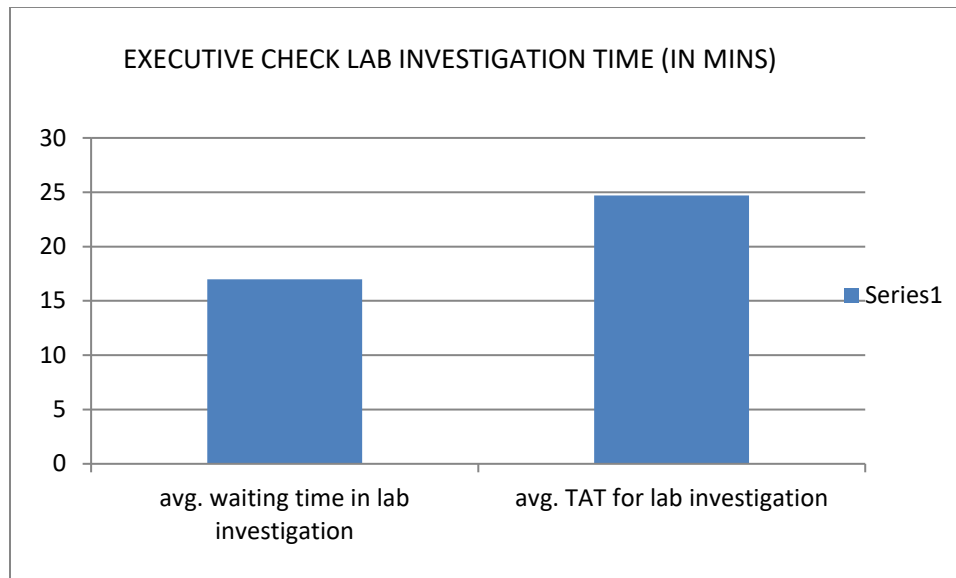
PROCESS 1 = LAB INVESTIGATION COMPLETION

First waiting time was found between patient arrival and lab investigation. Waiting time of 1 patient = time of lab investigations started - time of patient arrival at PHC front desk. Similarly, Average waiting time of executive check patients = time of lab investigations started - time arrival of executive check patients at PHC front desk. After calculation it was 17 minutes.

Therefore, Average waiting time in process 1 = **17 minutes.**

Average time in completion of process 1 of executive check patients = (time of lab investigations started – time arrival of executive check patients at PHC front desk) + time of lab investigations completed. After calculation it was 24.7 minutes.

Therefore, average time in completion of process 1 since arrival = **24.7 minutes.**



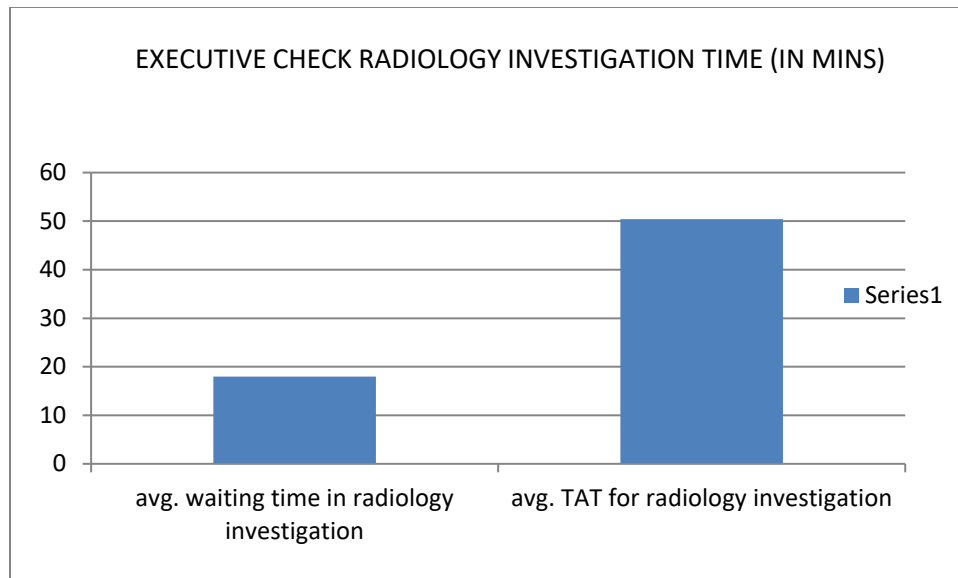
PROCESS 2 = RADIOLOGY INVESTIGATION COMPLETION

First waiting time was found between lab investigation completion and radiology investigation started. Waiting time of 1 patient = time of patient arrival in radiology – time of lab investigations completion. Similarly, Average waiting time of executive check patients = time of patients' arrival in radiology – time of lab investigations completion. After calculation it was 18 minutes.

Therefore, Average waiting time in process 2 = 18 minutes

Average time in completion of process 2 of executive check patients = (time of radiology investigations started – time of lab investigations completed) + time of radiology investigations completed. After calculation it was 60.4 minutes

Therefore, average time in completion of process 2 after completion of process 1 = 50.4 minutes.



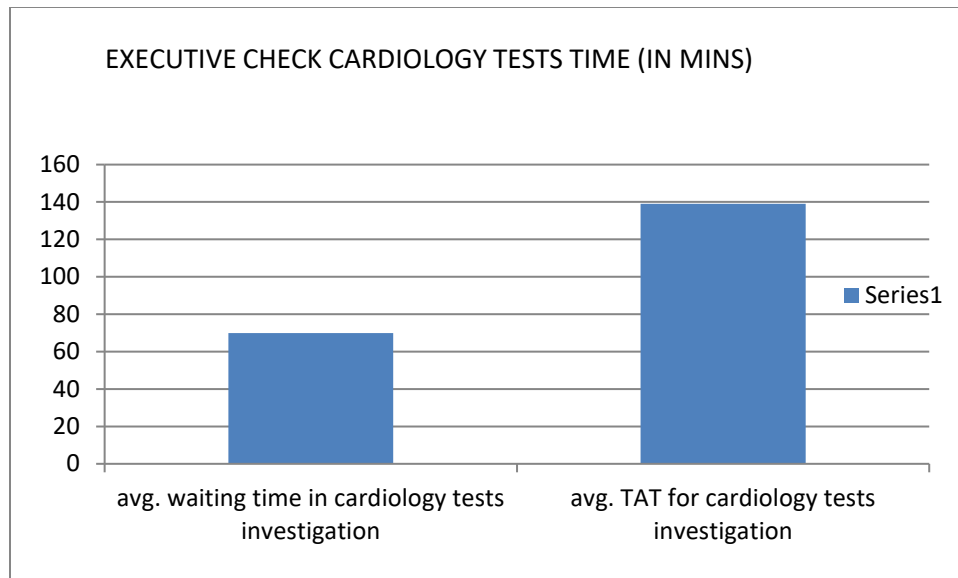
PROCESS 3 = CARDIOLOGY TESTS INVESTIGATION COMPLETION

First waiting time was found between radiology investigation completion and cardiology investigation started. Waiting time of 1 patient = time of patient arrival in cardiology – time of radiology investigations completion. Similarly, Average waiting time of executive check patients = time of patients' arrival in cardiology – time of radiology investigations completion. After calculation it was 70 minutes.

Therefore, Average waiting time in process 2 = 70 minutes

Average time in completion of process 3 of executive check patients = (time of cardiology investigations started – time of radiology investigations completed) + time of cardiology investigations completed. After calculation it was 139 minutes

Therefore, average time in completion of process 3 after completion of process 2= 139 minutes.



*avg. waiting time of cardiology includes breakfast + counselling by HOD time also.

PROCESS 4 = CONSULTATION/REVIEW COMPLETION

In executive check, there are 6 consultations. In observational study, these averages were found:

Patient came for review at PHC front desk

32 minutes

14 minutes

Physician consultation

22.5 minutes

15.9 minutes

Cardiologist consultation

31.1 minutes

19.8minutes

General surgeon consultation

28.8 minutes

15.1minutes

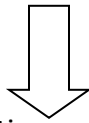
Gynaecologist consultation

27 minutes

11.8 minutes

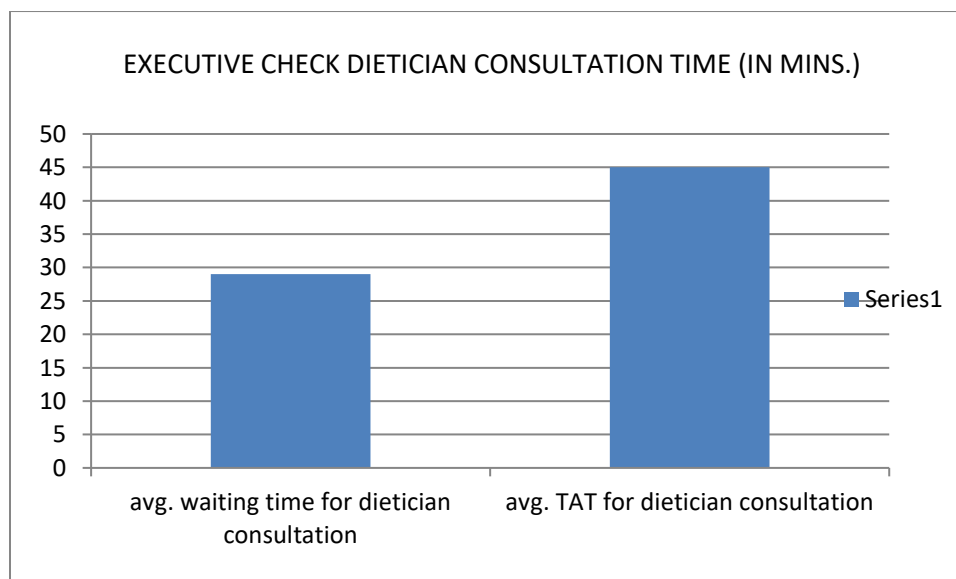
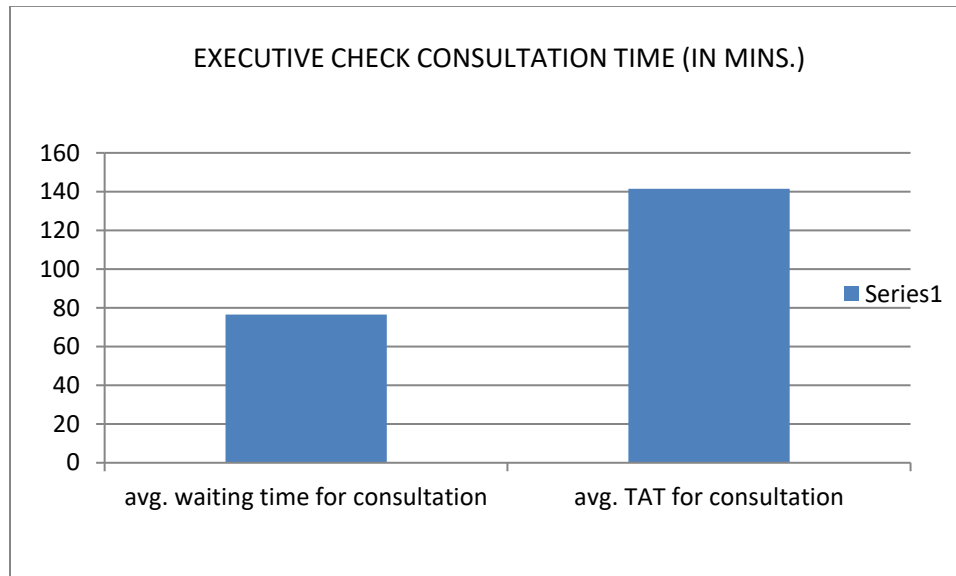
Ophthalmologist consultations

45 minutes



29 minutes

Dietician consultation



HEART CHECK PATIENTS WAITING TIME:

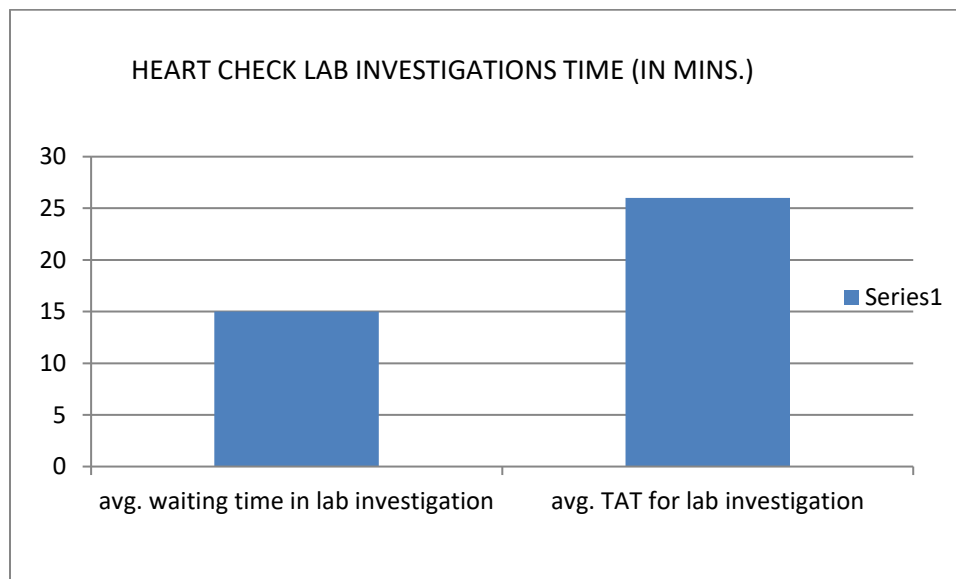
PROCESS 1 = LAB INVESTIGATION COMPLETION

First waiting time was found between patient arrival and lab investigation. Waiting time of 1 patient = time of lab investigations started - time of patient arrival at PHC front desk. Similarly, Average waiting time of heart check patients = time of lab investigations started - time arrival of heart check patients at PHC front desk. After calculation it was 15 minutes.

Therefore, Average waiting time in process 1 = 15 minutes.

Average time in completion of process 1 of heart check patients = (time of lab investigations started – time arrival of heart check patients at PHC front desk) + time of lab investigations completed. After calculation it was 26 minutes.

Therefore, average time in completion of process 1 since arrival = 26 minutes.



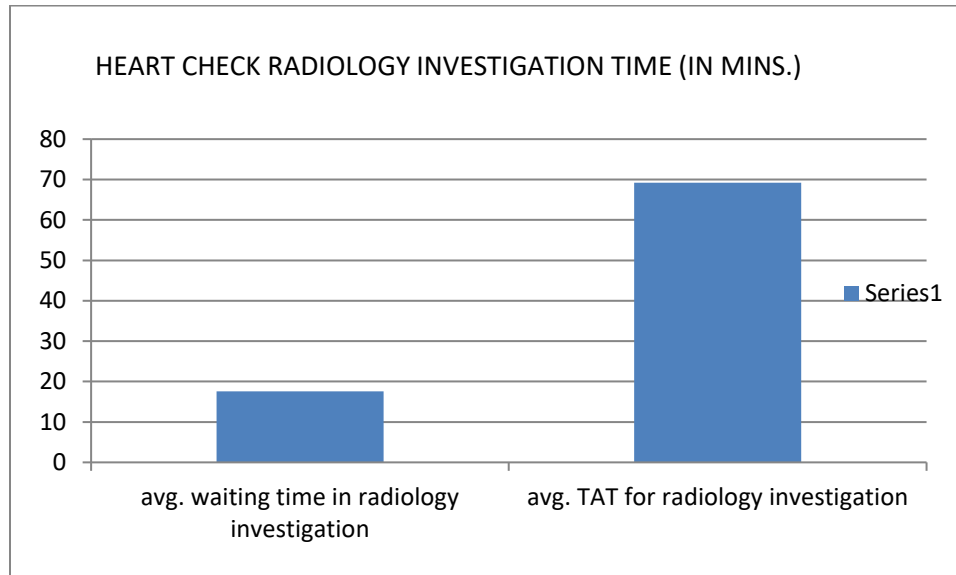
PROCESS 2 = RADIOLOGY INVESTIGATION COMPLETION

First waiting time was found between lab investigation completion and radiology investigation started. Waiting time of 1 patient = time of patient arrival in radiology – time of lab investigations completion. Similarly, Average waiting time of heart check patients = time of patients' arrival in radiology – time of lab investigations completion. After calculation it was 17.6 minutes.

Therefore, Average waiting time in process 2 = 17.6 minutes

Average time in completion of process 2 of heart check patients = (time of radiology investigations started – time of lab investigations completed) + time of radiology investigations completed. After calculation it was 69.2 minutes

Therefore, average time in completion of process 2 after completion of process 1 = 69.2 minutes.



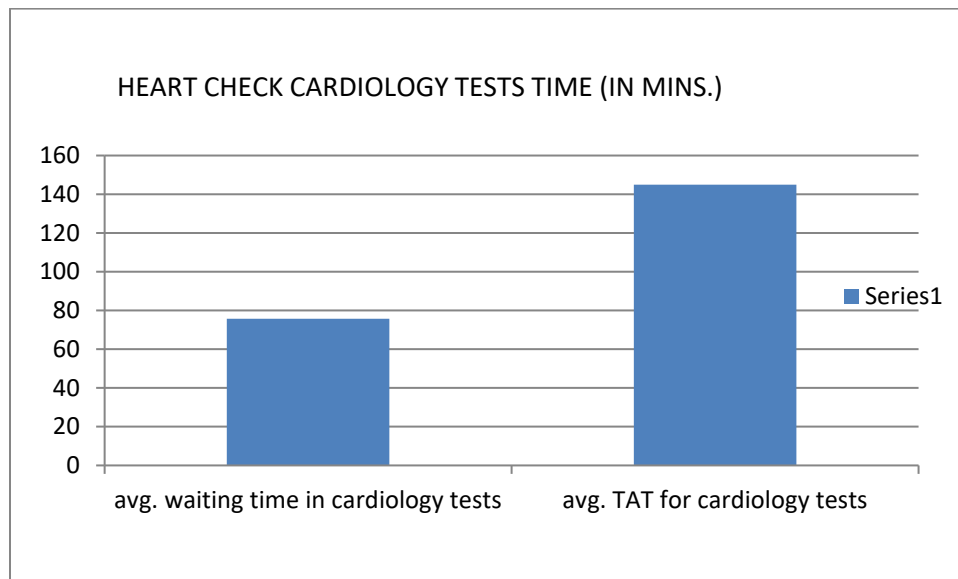
PROCESS 3 = CARDIOLOGY TESTS INVESTIGATION COMPLETION

First waiting time was found between radiology investigation completion and cardiology investigation started. Waiting time of 1 patient = time of patient arrival in cardiology – time of radiology investigations completion. Similarly, Average waiting time of heart check patients = time of patients' arrival in cardiology – time of radiology investigations completion. After calculation it was 75.7 minutes.

Therefore, Average waiting time in process 2 = 75.7 minutes

Average time in completion of process 3 of heart check patients = (time of cardiology investigations started – time of radiology investigations completed) + time of cardiology investigations completed. After calculation it was 145 minutes

Therefore, average time in completion of process 3 after completion of process 2 = 145 minutes.



*avg. waiting time of cardiology includes breakfast + counselling by HOD time also.

PROCESS 4 = CONSULTATION/REVIEW COMPLETION

In heart check, there are 3 consultations. In observational study, these **averages** were found:

Patient came for review at PHC front desk

35 minutes

16 minutes

Physician consultation

32.5 minutes

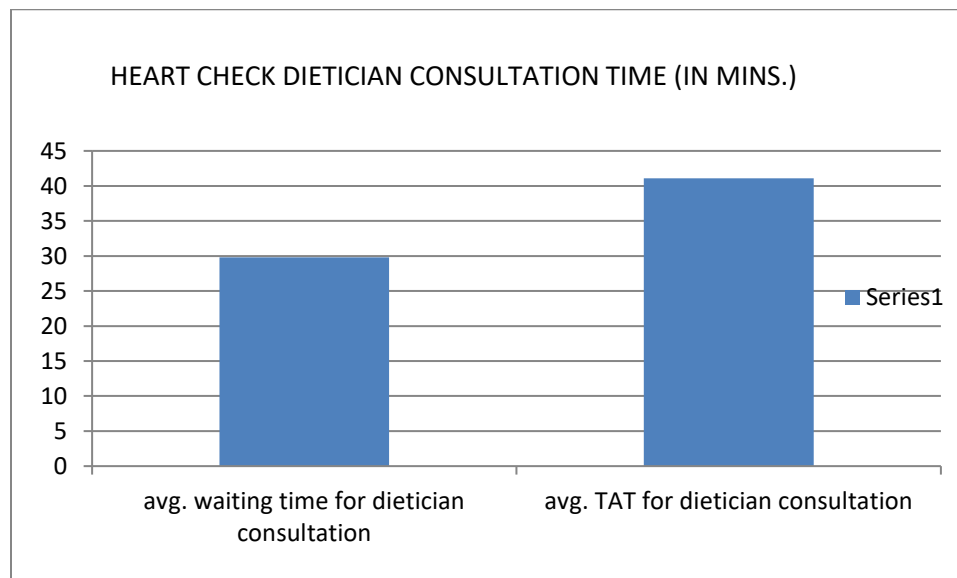
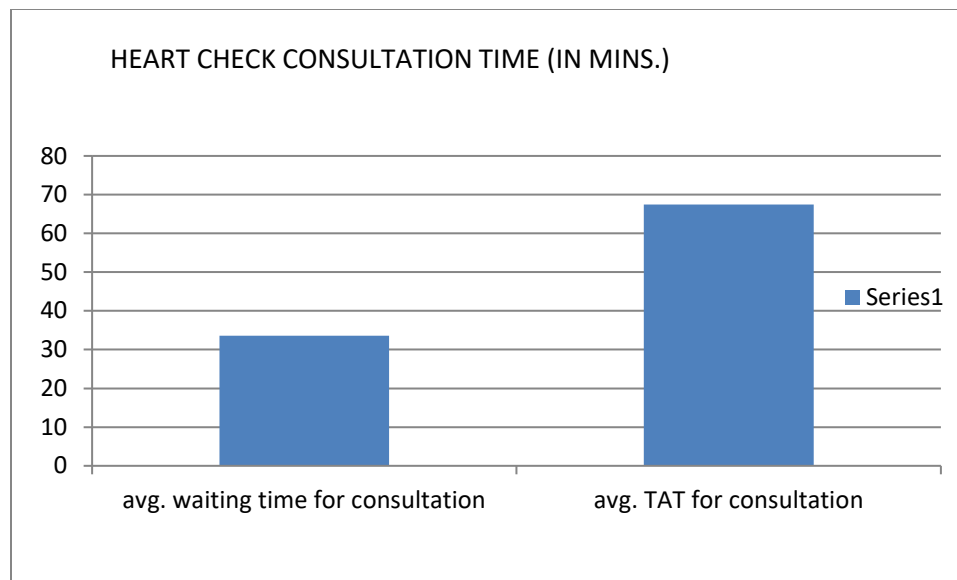
17.6 minutes

Cardiologist consultation

41.1 minutes

29.8minutes

Dietician consultation



DIABETIC CHECK PATIENTS WAITING TIME:

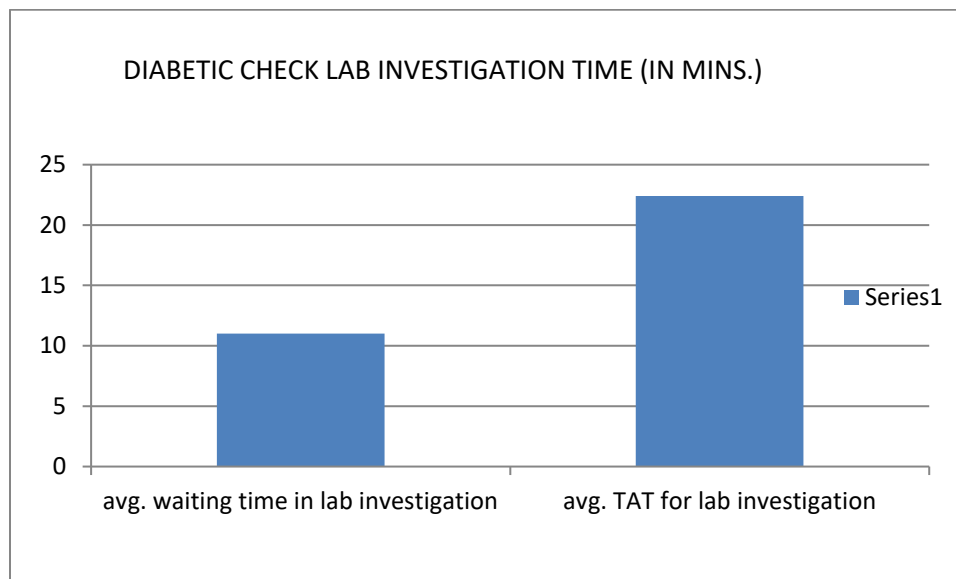
PROCESS 1 = LAB INVESTIGATION COMPLETION

First waiting time was found between patient arrival and lab investigation. Waiting time of 1 patient = time of lab investigations started - time of patient arrival at PHC front desk. Similarly, Average waiting time of diabetic check patients = time of lab investigations started - time arrival of diabetic check patients at PHC front desk. After calculation it was 11 minutes.

Therefore, Average waiting time in process 1 = 11 minutes.

Average time in completion of process 1 of diabetic check patients = (time of lab investigations started – time arrival of diabetic check patients at PHC front desk) + time of lab investigations completed. After calculation it was 22 minutes.

Therefore, average time in completion of process 1 since arrival = 22.4 minutes.



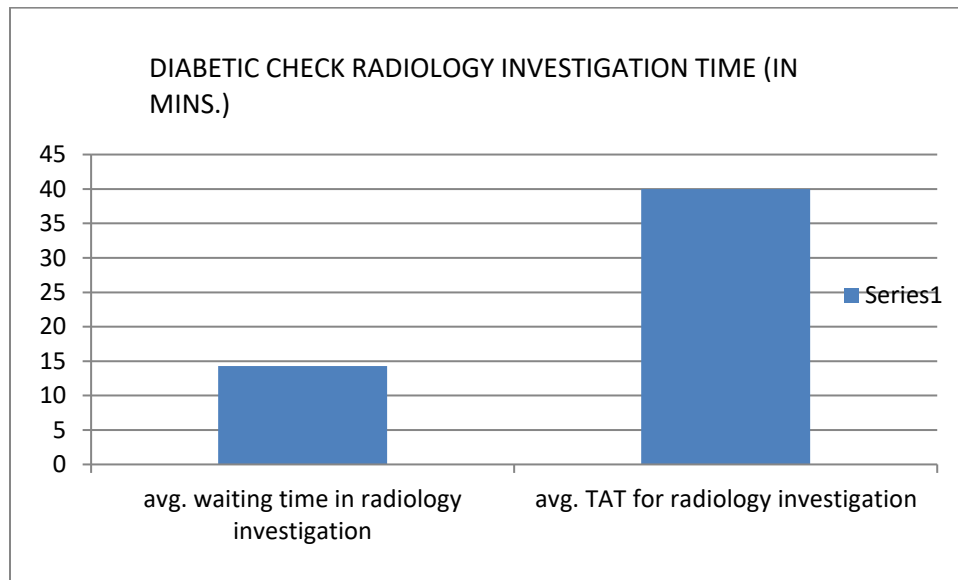
PROCESS 2 = RADIOLOGY INVESTIGATION COMPLETION

First waiting time was found between lab investigation completion and radiology investigation started. Waiting time of 1 patient = time of patient arrival in radiology – time of lab investigations completion. Similarly, Average waiting time of diabetic check patients = time of patients' arrival in radiology – time of lab investigations completion. After calculation it was 14.3 minutes.

Therefore, Average waiting time in process 2 = 14.3 minutes

Average time in completion of process 2 of diabetic check patients = (time of radiology investigations started – time of lab investigations completed) + time of radiology investigations completed. After calculation it was 40 minutes

Therefore, average time in completion of process 2 after completion of process 1 = 40 minutes.



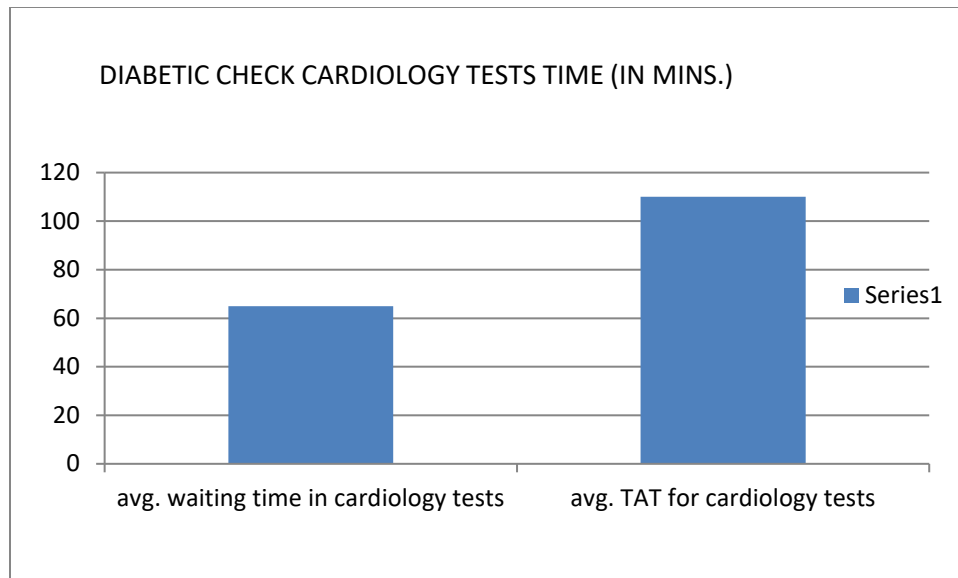
PROCESS 3 = CARDIOLOGY TESTS INVESTIGATION COMPLETION

First waiting time was found between radiology investigation completion and cardiology investigation started. Waiting time of 1 patient = time of patient arrival in cardiology – time of radiology investigations completion. Similarly, Average waiting time of diabetic check patients = time of patients' arrival in cardiology – time of radiology investigations completion. After calculation it was 65 minutes.

Therefore, Average waiting time in process 2 = 65 minutes

Average time in completion of process 3 of diabetic check patients = (time of cardiology investigations started – time of radiology investigations completed) + time of cardiology investigations completed. After calculation it was 110 minutes

Therefore, average time in completion of process 3 after completion of process 2 = 110 minutes.

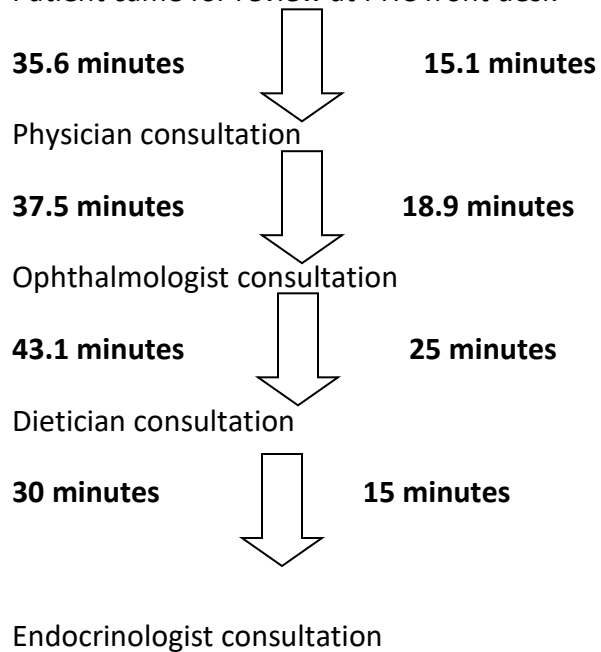


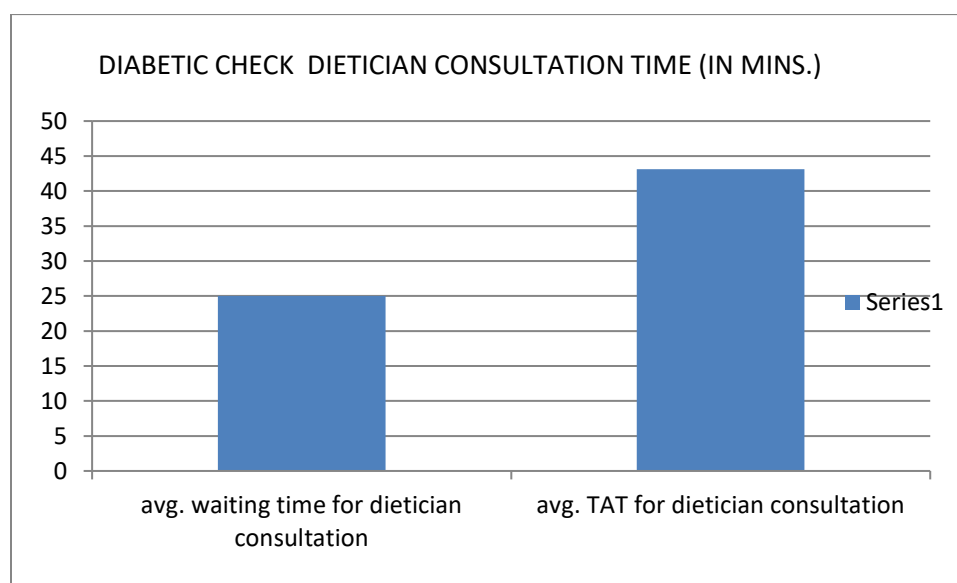
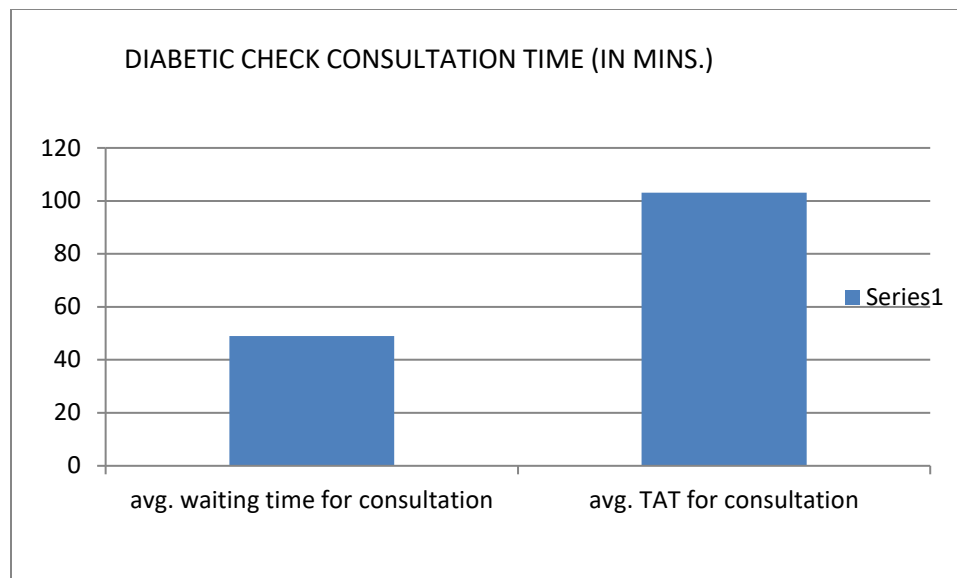
*avg. waiting time of cardiology includes breakfast + counselling by HOD time also.

PROCESS 4 = CONSULTATION/REVIEW COMPLETION

In diabetic check, there are 4 consultations. In observational study, these **averages** were found:

Patient came for review at PHC front desk





CANCER CHECK PATIENTS WAITING TIME:

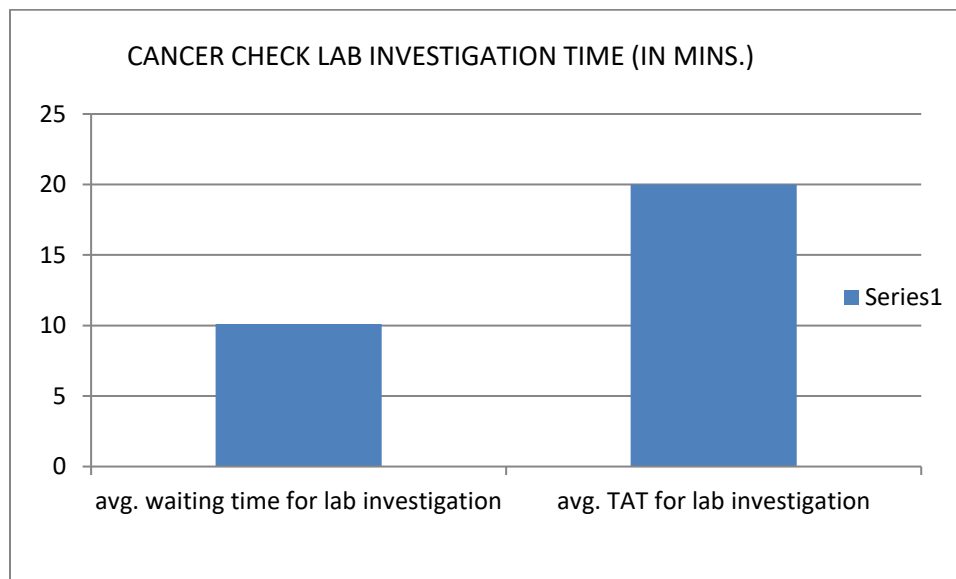
PROCESS 1 = LAB INVESTIGATION COMPLETION

First waiting time was found between patient arrival and lab investigation. Waiting time of 1 patient = time of lab investigations started - time of patient arrival at PHC front desk. Similarly, Average waiting time of cancer check patients = time of lab investigations started - time arrival of cancer check patients at PHC front desk. After calculation it was 10.1 minutes.

Therefore, Average waiting time in process 1 = 10.1 minutes.

Average time in completion of process 1 of cancer check patients = (time of lab investigations started – time arrival of cancer check patients at PHC front desk) + time of lab investigations completed. After calculation it was 20 minutes.

Therefore, average time in completion of process 1 since arrival = 20 minutes.



PROCESS 2 = RADIOLOGY INVESTIGATION COMPLETION

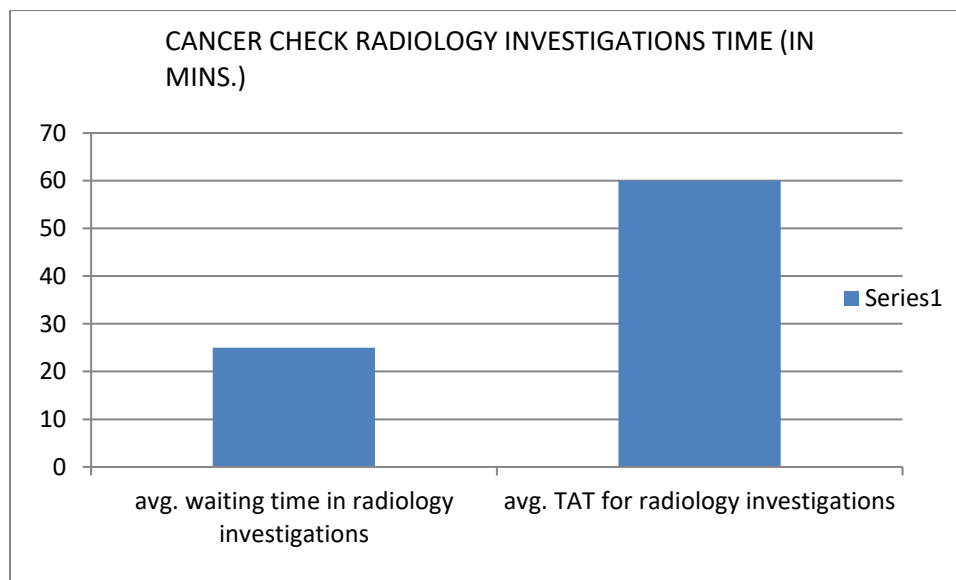
First waiting time was found between lab investigation completion and radiology investigation started. Waiting time of 1 patient = time of patient arrival in radiology – time of lab investigations completion. Similarly, Average waiting time of cancer check patients = time of

patients' arrival in radiology – time of lab investigations completion. After calculation it was 25 minutes.

Therefore, Average waiting time in process 2 = 25 minutes

Average time in completion of process 2 of cancer check patients = (time of radiology investigations started – time of lab investigations completed) + time of radiology investigations completed. After calculation it was 60 minutes

Therefore, average time in completion of process 2 after completion of process 1 = 60 minutes.



PROCESS 3 = CARDIOLOGY INVESTIGATION COMPLETION

No cardiology investigation in cancer check.

PROCESS 4 = CONSULTATION/REVIEW COMPLETION

WELL WOMEN CHECK PATIENTS WAITING TIME:

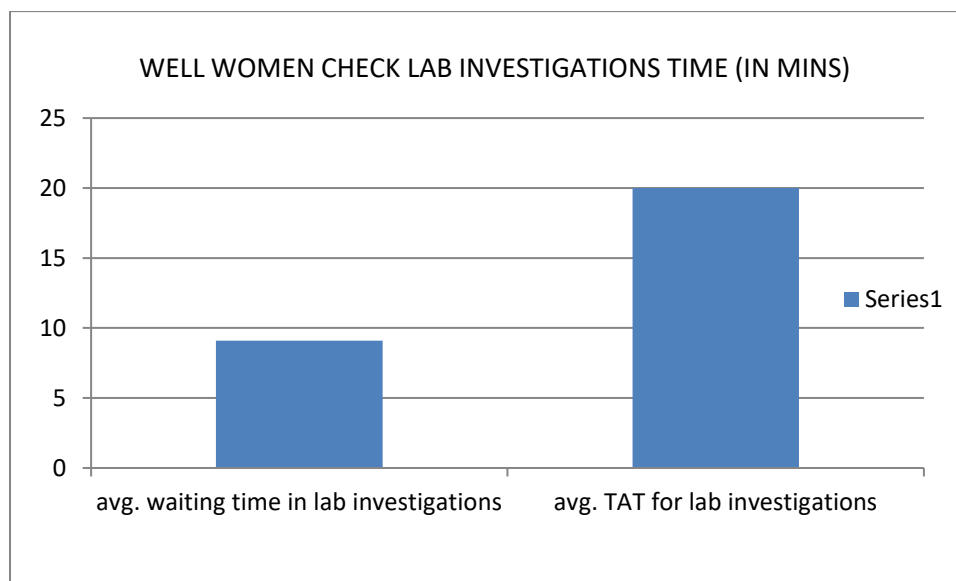
PROCESS 1 = LAB INVESTIGATION COMPLETION

First waiting time was found between patient arrival and lab investigation. Waiting time of 1 patient = time of lab investigations started - time of patient arrival at PHC front desk. Similarly, Average waiting time of well women check patients = time of lab investigations started - time arrival of well women check patients at PHC front desk. After calculation it was 9.1 minutes.

Therefore, Average waiting time in process 1 = 9.1 minutes.

Average time in completion of process 1 of well women check patients = (time of lab investigations started – time arrival of well women check patients at PHC front desk) + time of lab investigations completed. After calculation it was 20 minutes.

Therefore, average time in completion of process 1 since arrival = 20 minutes.



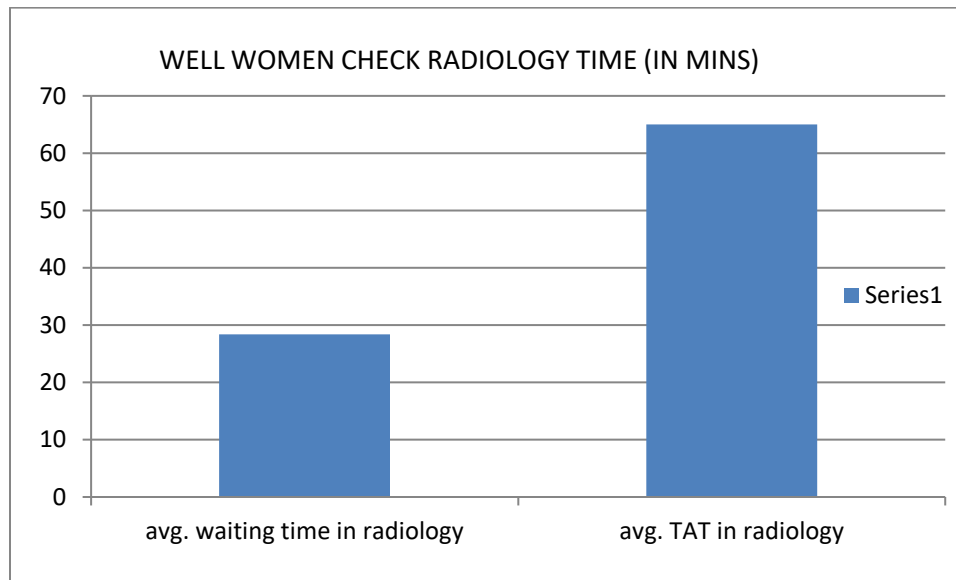
PROCESS 2 = RADIOLOGY INVESTIGATION COMPLETION

First waiting time was found between lab investigation completion and radiology investigation started. Waiting time of 1 patient = time of patient arrival in radiology – time of lab investigations completion. Similarly, Average waiting time of well women check patients = time of patients' arrival in radiology – time of lab investigations completion. After calculation it was 28.4 minutes.

Therefore, Average waiting time in process 2 = 28.4 minutes

Average time in completion of process 2 of well women check patients = (time of radiology investigations started – time of lab investigations completed) + time of radiology investigations completed. After calculation it was 65 minutes

Therefore, average time in completion of process 2 after completion of process 1 = 65 minutes.



PROCESS 3 = CARDIOLOGY INVESTIGATION COMPLETION

No cardiology investigation in well women check.

PROCESS 4 = CONSULTATION/REVIEW COMPLETION

In diabetic check, there are 2 consultations. In observational study, these averages were found:

Patient came for review at PHC front desk

30 minutes

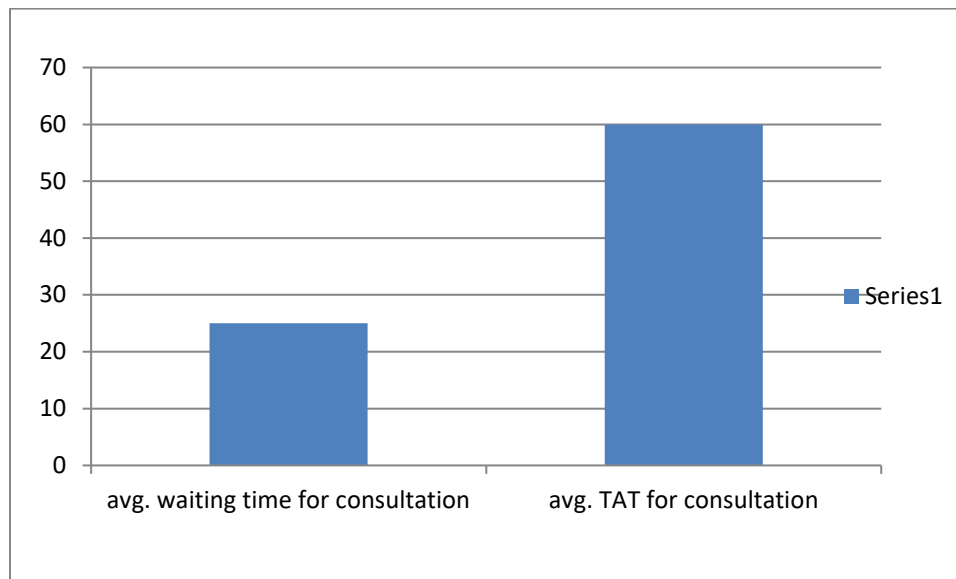
15 minutes

Physician consultation

30 minutes

10 minutes

Gynaecologist consultation



CORPORATE CHECK PATIENTS WAITING TIME:

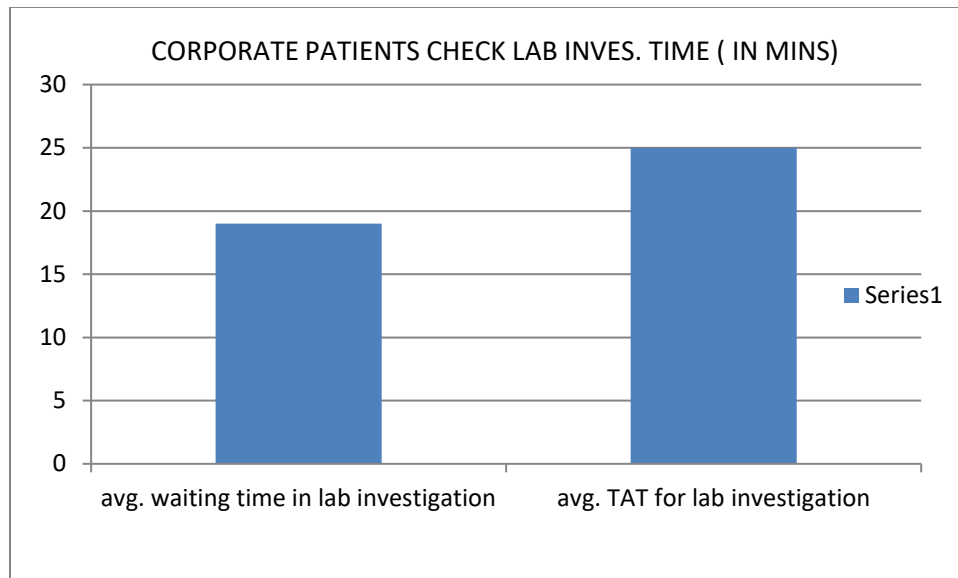
PROCESS 1 = LAB INVESTIGATION COMPLETION

First waiting time was found between patient arrival and lab investigation. Waiting time of 1 patient = time of lab investigations started - time of patient arrival at PHC front desk. Similarly, Average waiting time of corporate check patients = time of lab investigations started - time arrival of corporate check patients at PHC front desk. After calculation it was 19 minutes.

Therefore, Average waiting time in process 1 = **19 minutes.**

Average time in completion of process 1 of corporate check patients = (time of lab investigations started – time arrival of corporate check patients at PHC front desk) + time of lab investigations completed. After calculation it was 25 minutes.

Therefore, average time in completion of process 1 since arrival = **25 minutes.**



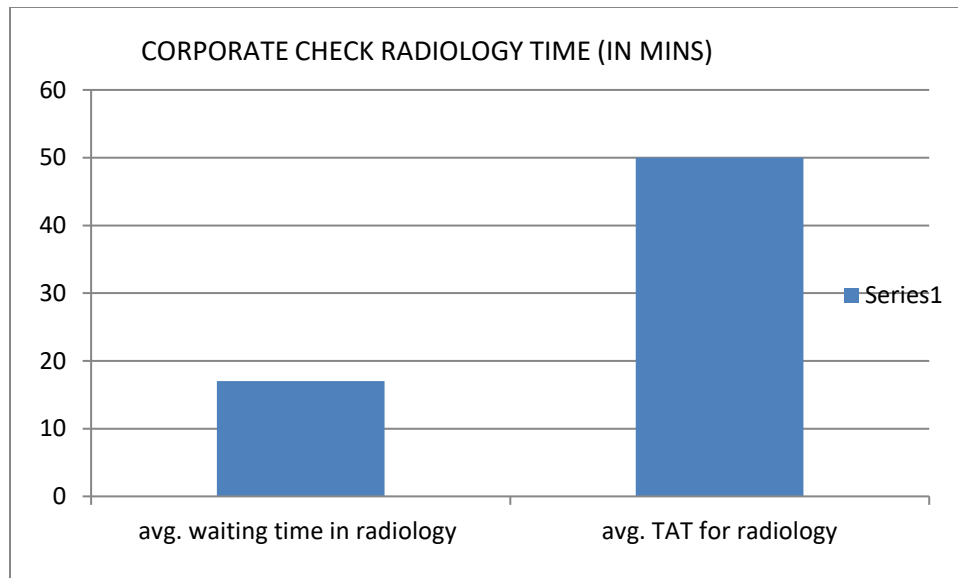
PROCESS 2 = RADIOLOGY INVESTIGATION COMPLETION

First waiting time was found between lab investigation completion and radiology investigation started. Waiting time of 1 patient = time of patient arrival in radiology – time of lab investigations completion. Similarly, Average waiting time of corporate check patients = time of patients' arrival in radiology – time of lab investigations completion. After calculation it was 17 minutes.

Therefore, Average waiting time in process 2 = 17 minutes

Average time in completion of process 2 of corporate check patients = (time of radiology investigations started – time of lab investigations completed) + time of radiology investigations completed. After calculation it was 50 minutes

Therefore, average time in completion of process 2 after completion of process 1 = 50 minutes.



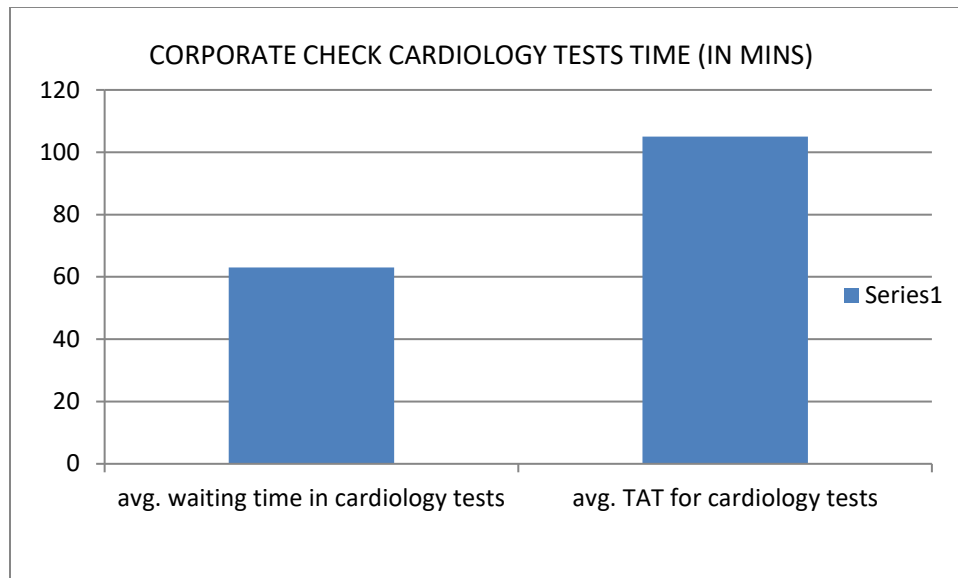
PROCESS 3 = CARDIOLOGY INVESTIGATION COMPLETION

First waiting time was found between radiology investigation completion and cardiology investigation started. Waiting time of 1 patient = time of patient arrival in cardiology – time of radiology investigations completion. Similarly, Average waiting time of corporate check patients = time of patients' arrival in cardiology – time of radiology investigations completion. After calculation it was 63 minutes.

Therefore, Average waiting time in process 2 = 63 minutes

Average time in completion of process 3 of corporate check patients = (time of cardiology investigations started – time of radiology investigations completed) + time of cardiology investigations completed. After calculation it was 105 minutes

Therefore, average time in completion of process 3 after completion of process 2= 105 minutes.



*avg. waiting time of cardiology includes breakfast + counselling by HOD time also.

PROCESS 4 = CONSULTATION/REVIEW COMPLETION

In corporate check, there are 3 consultations. In observational study, these averages were found:

Patient came for review at PHC front desk

40 minutes

15 minutes

Physician consultation

32 minutes

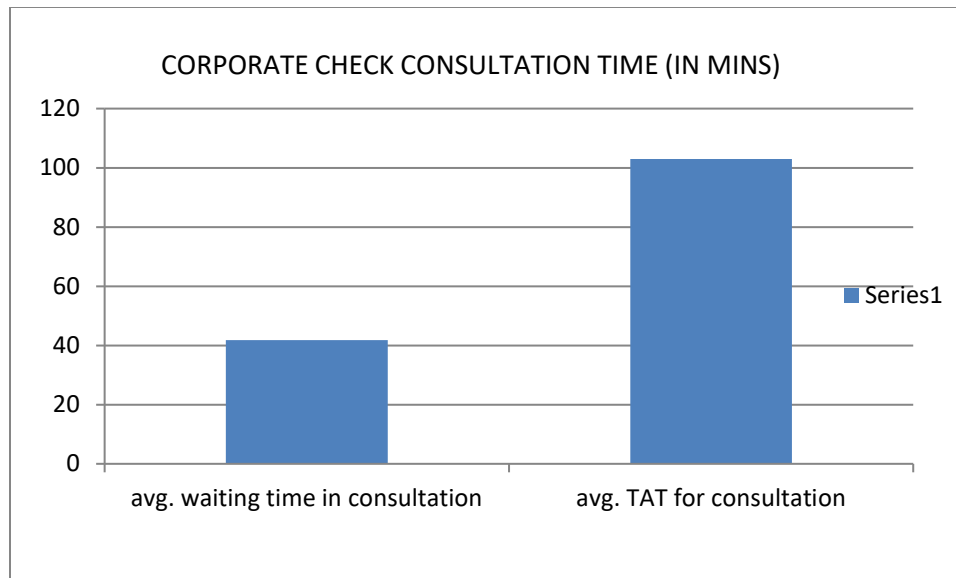
15 minutes

ENT consultation

31 minutes

11.8 minutes

Ophthalmologist consultation



PRE EMPLOYMENT HEALTH CHECK PATIENTS WAITING TIME:

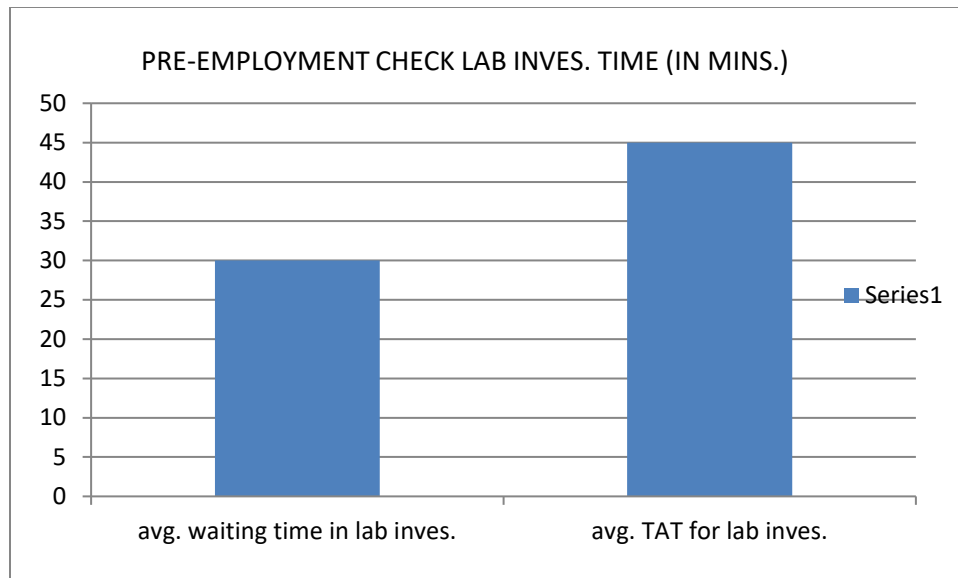
PROCESS 1 = LAB INVESTIGATION COMPLETION

First waiting time was found between patient arrival and lab investigation. Waiting time of 1 patient = time of lab investigations started - time of patient arrival at PHC front desk. Similarly, Average waiting time of pre employment health check patients = time of lab investigations started - time arrival of pre employment health check patients at PHC front desk. After calculation it was 30 minutes.

Therefore, Average waiting time in process 1 = 30 minutes.

Average time in completion of process 1 of pre employment health check patients = (time of lab investigations started – time arrival of pre employment health check patients at PHC front desk) + time of lab investigations completed. After calculation it was 45 minutes.

Therefore, average time in completion of process 1 since arrival = 45 minutes.



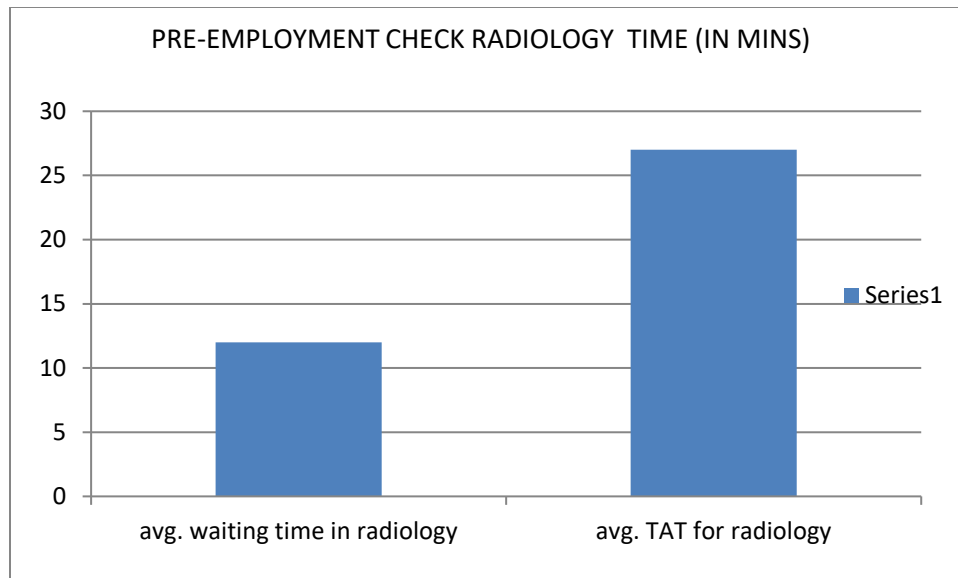
PROCESS 2 = RADIOLOGY INVESTIGATION COMPLETION

First waiting time was found between lab investigation completion and radiology investigation started. Waiting time of 1 patient = time of patient arrival in radiology – time of lab investigations completion. Similarly, Average waiting time of pre employment health check patients = time of patients' arrival in radiology – time of lab investigations completion. After calculation it was 12 minutes.

Therefore, Average waiting time in process 2 = 12 minutes

Average time in completion of process 2 of pre employment health check patients = (time of radiology investigations started – time of lab investigations completed) + time of radiology investigations completed. After calculation it was 27 minutes

Therefore, average time in completion of process 2 after completion of process 1 = 27 minutes.



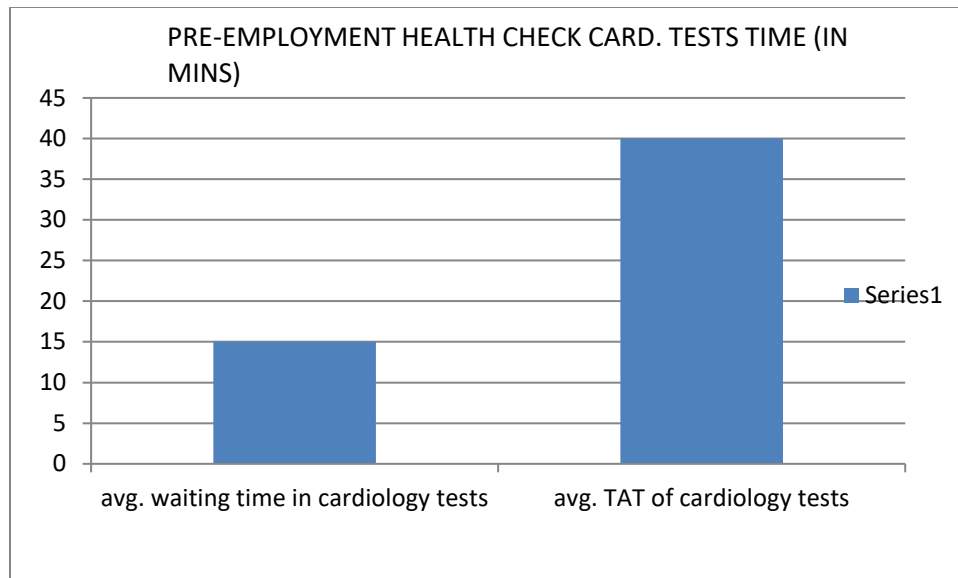
PROCESS 3 = CARDIOLOGY INVESTIGATION COMPLETION

First waiting time was found between radiology investigation completion and cardiology investigation started. Waiting time of 1 patient = time of patient arrival in cardiology – time of radiology investigations completion. Similarly, Average waiting time of pre employment health check patients = time of patients' arrival in cardiology – time of radiology investigations completion. After calculation it was 15 minutes.

Therefore, Average waiting time in process 3 = 15 minutes

Average time in completion of process 3 of pre employment health check patients = (time of cardiology investigations started – time of radiology investigations completed) + time of cardiology investigations completed. After calculation it was 40 minutes

Therefore, average time in completion of process 3 after completion of process 2= 40 minutes.



*NOTE: employees more than 40 years of age undergo ECG.

*avg. waiting time of cardiology includes breakfast + counselling by HOD time also.

PROCESS 4 = CONSULTATION/REVIEW COMPLETION

***NOTE:** candidates who join PARAS HMRI Hospital, fill up a pre employment health check up form mentioning their all details (including health details and family background of health, according to which their health check up is done, if it exceeds whatever is in their package then they have to pay for additional tests.

Reasons for initial waiting time: Registration, Billing process, Patient queries, Counselling by executive.

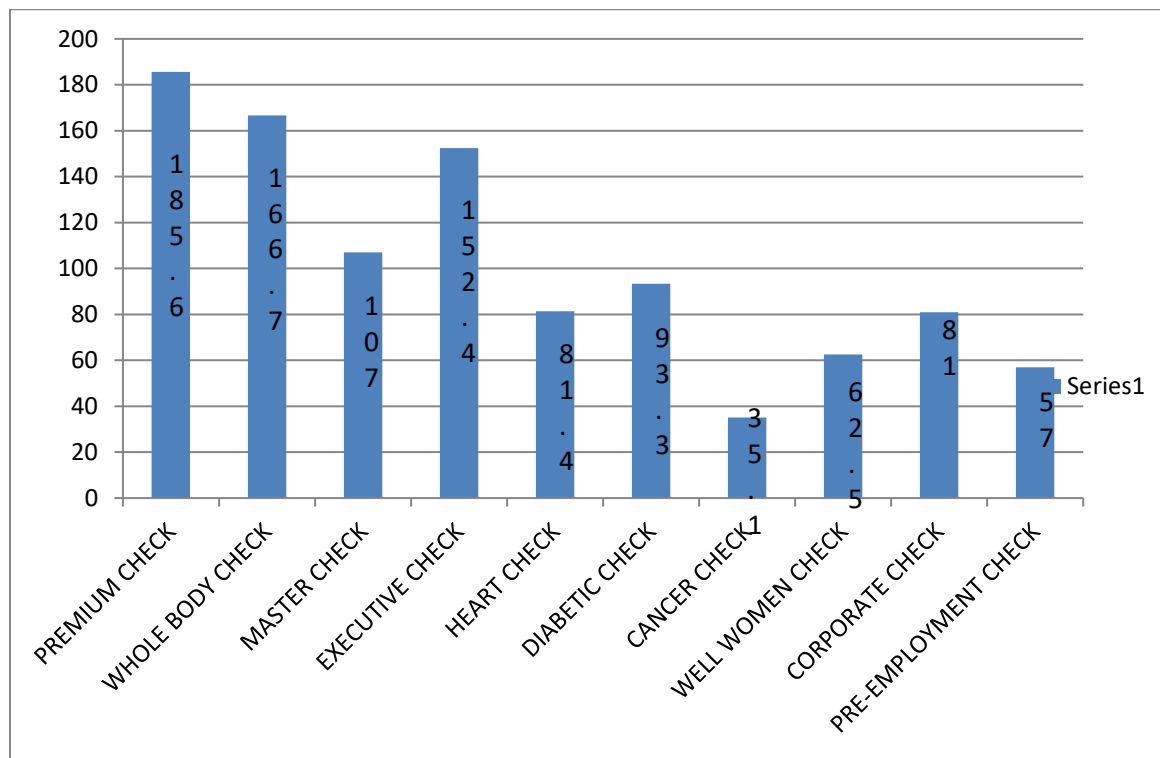
***Note:** PHC has its own sample collection room. So, it is convenient to take blood sample.

Reasons for waiting time before radiology tests: Uniform change, Radiology located on ground floor and PHC on first floor

***Note:** radiological procedures consume more time because OPD patients, Emergency patients, some IPD patients and PHC patients come simultaneously. There is a huge rush. Sometimes, doctors of radiology department visit for rounds at the same time, resulting in delayed tests.

Reasons for waiting time before cardiology tests: breakfast given to patient, counselling by HOD.

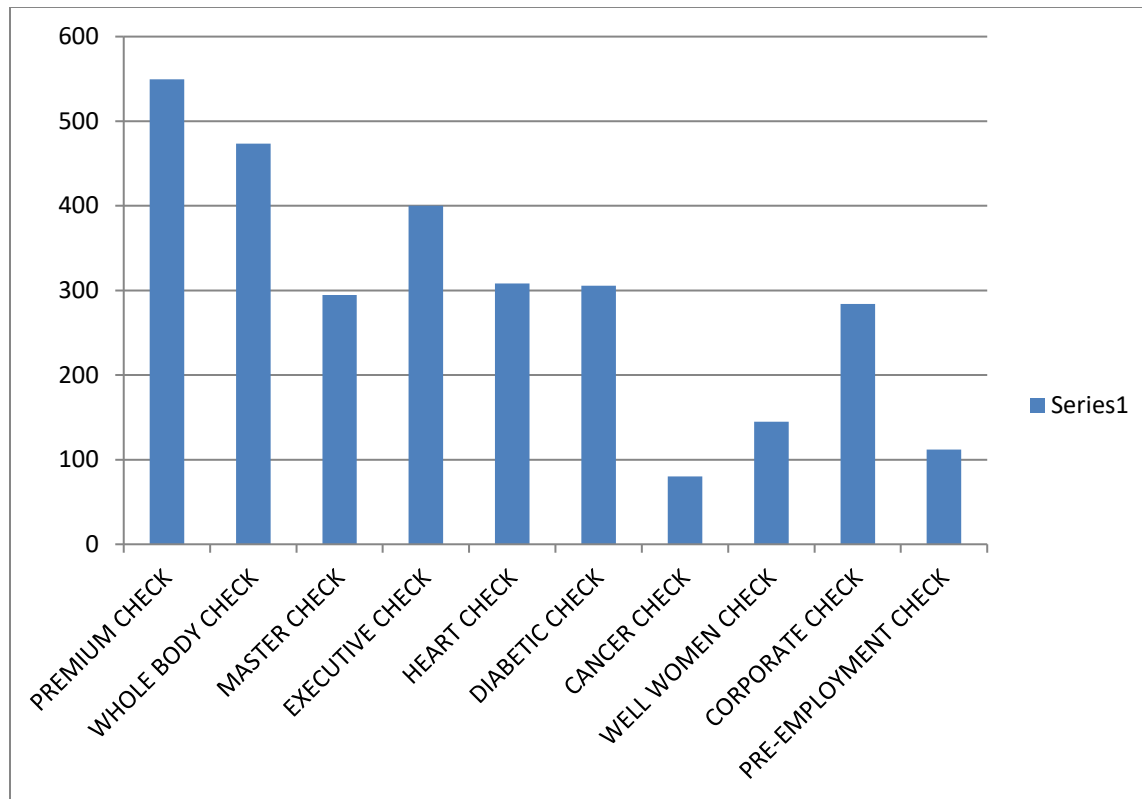
CONCLUSIONS AND FINDINGS:



Above graphical presentation depicts average waiting time of all checks (in minutes)

Conclusion from this graphical presentation: average waiting time is highest in premium check.

- Time of breakfast and counseling by HOD is subtracted from cardiology tests waiting time here.
- Average time of breakfast and counseling by HOD is 60 minutes.
- Premium check is the costliest test and includes almost all types of investigations.



Above graphical representation depicts avg. TATs of all checks

Conclusion from above graph: TAT for premium check is highest.

- TAT includes waiting time + time taken in all tests and consultations.

Some other observational findings:

- Sometimes patients come for review and due to rush of OPD patients, Operation, rounds, etc., doctors are unable to see them on time.
- Due to huge rush of OPD patients, emergency patients, referral patients and PHC patients simultaneously, TAT of radiology gets affected and thus problems faced by PHC patients.
- Sometimes, due to pending reports of ultrasound and x-ray, etc., patients who came for review, were waiting.
- There is a link between marketing department and PHC department due to corporate patients.
- In PHC first day TAT goes around 5-6 hours and second day TAT goes around 3-4 hours. It is very high when compared to some pioneers commercial hospitals.

- There is a link between Human resource department and PHC department due to pre-employment health check patients.

PATIENT SATISFACTION IN PHC:

It was analyzed by feedback forms. Around 70 patients or attendants participated in this process. Feedback form was given to each of them to fill up. Out of 70, 20 returned back the feedback form incomplete, those forms were considered invalid. Therefore, 50 forms were fully complete for analysis. Questionnaire was of mixed pattern. Two questions were common and the rest were based on likert scale.

Analysis and Interpretation:

- 61.8 percent said that doctor's consultation was more time taking.
- 28 percent said that radiology procedure was more time taking.
- 10.2 percent said that all procedures were on time.
- Patients and attendants were satisfied from other services of hospital.
- 98.1 percent were satisfied from hospital but suggested to improve radiology services TAT and Doctor's consultation TAT.

RECOMMENDATIONS:

- PHC should be centralized. Due to decentralization, problem occurs.
- There is one running computer system at PHC front desk. If possible one more system set up. Because billing person and executive use same system. Thus, more time is consumed.
- There should be change in few doctors' duty rosters. Doctors involved in PHC patients check (basically radiology doctors) can manage to come at 8 am. Because PHC patients come at 8 am.
- One of the main reason for increased TAT is parallel rush of OPD and PHC patients in consultation. When asked from one OPD sister, responsible to fix patient's appointment with doctor serial wise, she said that there is no such privilege to PHC patients, especially old patients that they can consult doctors at earliest. There should be such privilege. PHC check is done on prior appointment system basis, then why they again need to take appointment for consultation? Why they wait so long for consultation?
- Premium check is the main source of revenue generation in PHC. In findings, waiting time and TAT for premium check is highest. It is a matter of concern.

ETHICAL CONSIDERATIONS:

Ethical aspects of the study have been addressed by implementing the following measures:

The data collected is related to the study only and is not used for any other purpose.

Texts belonging to other authors that have been used in any part of this study have been fully referenced.

The study was done as an intern in PARAS HMRI Hospital, thus any confidential information has not been disclosed.

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- www.ncbi.nlm.nih.gov/primarycare

ANNEXURE:

FEEDBACK FORM FOR PATIENTS:

FEEDBACK FORM

In our efforts to serve you better, your feedback is very important to us and we welcome your comments about the care you received in PARAS Hospital's Preventive Health Check up. We appreciate the opportunity to address and resolve them in a timely manner.

Some common Questions:

(1). Do you need a yearly check up?

(a). yes

(b). no

(c). don't know

(2). Do you want to devote some time for your well being?

(a). yes

(b). no

(c). don't know

Rate your opinion about the following depending on the following scale of 1 to 5:

1=excellent, 2=very good, 3=good, 4=satisfactory, 5=poor

(3). Front desk services (registration, etc)

1	2	3	4	5
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(4). Lab services of hospital:

1	2	3	4	5
---	---	---	---	---

(5). Radiology services of hospital:

1	2	3	4	5
---	---	---	---	---

(6). Cardiology services of hospital:

1	2	3	4	5
---	---	---	---	---

(7). Doctor's services of hospital:

1	2	3	4	5
---	---	---	---	---

(8). Supporting staff services of hospital:

1	2	3	4	5
---	---	---	---	---

(9). Behaviour of other hospital staff:

1	2	3	4	5
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(10). Pharmacy services of Hospital:

1 2 3 4 5

(11). Are you satisfied with this hospital:

(a). yes

(b). no

(c). don't know

(12). Which procedure was more time-taking?

(a). Radiology

(b). Cardiology

(c). Laboratory

(d). Pharmacy

(e). Consultation with doctors

(f). Any other (please specify)

(13). In that procedure, waiting time was:

(a). <15 minutes

(b). 15-30 minutes

(c). 30-45 minutes

(d). >45 minutes

Any other suggestions (please specify):

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