Summer Training at
Fortis Escorts Hospital, Jaipur
(April 3 to June 2, 2017)

Study on Turn Around Time

By
Renu Joshi

Under the guidance of
Dr. P.R. Sodani

MBA Hospital & Health Management
2016-2018

Institute of Health Management Research
The IIHMR University, Jaipur
2017

INSTITUTE OF HEALTH
MANAGEMENT RESEARCH
(WHO Collaborating Centre for District Health System Based on Primary Health Care)

IIHMR UNIVERSITY

CERTIFICATE

This is to certify that **Dr. Renu Joshi** has undergone summer training in **Fortis Escorts Hospital, Jaipur** from **3rd April to 2nd June 2017**.

The candidate herself completed the project assign to her during summer training. Her approach to the project was sincere and proactive. This summer training is in partial fulfillment of the course requirement recommended for the award of MBA in Hospital and Health Management.

I wish her success in all her future endeavors.

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

Dr. P. R. Sodani
Dean (Training)
The IIHMR University, Jaipur

1, Prabhu Dayal Marg, Near Sanganer Airport, Jaipur- 302029, Rajasthan, India.
Ph.: 0141- 3924700, 2791431- 32, Fax: 0141 3924738, E-mail: iihmr@iihmr.edu.in, Web.: www.iihmr.edu.in

Fortis Escorts

Fortis Escorts Hospital
Jawahar Lal Nehru Marg, Malviya Nagar,
Jaipur - 302 017 Rajasthan
Tel : +91 141 254 7000
Appointment : +91 141 409 7109
Fax : +91 141 254 7002
Ambulance : +91 141 254 7009
E-mail : contactus.jaipur@fortishealthcare.com
Website : www.fortishealthcare.com

Ref./FEHJ/HR-Comm./TRN/019

26th June , 2017

TO WHOMSOEVER IT MAY CONCERN

This is to certify that **Dr.Renu Joshi** worked as a **Trainee** with us in the **Dept. of Quality Assurance & FOS** from 3rd April, 2017 to 2nd June , 2017.

Her performance during the period in the department was good. She comes across as a willing, sincere and intelligent person who has a strong drive and zeal for learning.

We wish her the best for all her future endeavors.

Fortis Hospitals Limited JAIPUR

Authorized Signatory

Table of Contents

ACKNOWLEDGEMENTS

I have taken efforts in this project. However, it would not have been possible without the kind support and help of many individuals and organization. We would like to extend our sincere thanks to all of them.

I am thankful to **Mr Prateem Tamboli, Zonal Director of Fortis Escorts Hospital, Jaipur** for letting us do our summer training from this reputed organization.

I am highly indebted to **Ms. Nihar Bhatia, Head Quality Assurance and FOS** for her guidance and constant supervision as well as for providing necessary information regarding the project & also for her support in completing the project.

I would like to express our special gratitude and thanks to the team of Quality assurance and FOS for giving us such attention and time.

I would like to express our gratitude towards the clinical and non-clinical staff of Fortis Escorts, Jaipur for their kind co-operation and encouragement which helped us in completion of this project.

My heartfelt thanks to Col. Ashok Kaushik and Dr. P. R. Sodani for giving us this great opportunity to enhance our skills. My sincere thanks to Dr. P R Sodani for his constant guidance and mentorship.

My appreciations also to our colleague in developing the project and people who have willingly helped us out with their abilities.

HOSPITAL PROFILE

Fortis Healthcare is India's fastest growing healthcare chain, with state-of-the-art facilities and an unparalleled commitment to patient care. Fortis Escort Healthcare Limited (FHL) is founded on the vision of becoming an integrated Healthcare Delivery Organization driven by quality, excellence, technology and compassionate care. FHL, one of the largest private healthcare companies in India, has one of its hospitals in Jaipur as Fortis Escorts Hospital, Jaipur. (FEHJ) which specializes in cardiac sciences, neurosciences, renal sciences and gastrointestinal diseases. The hospital also provides superior services in mother and childcare, orthopedics and also a complete range of multi-specialty services in all disciplines.

Ja**M** Ja**A** Je**E** → Good day = 'Good **M**orning / Good **A**fternoon / Good **E**vening' – Greeting for Fortisians

FEHJ has dedicated facilities for comprehensive care of trauma patients and others in need of emergency care which include an emergency operation theatre and a 10-bedded medical intensive care unit (MICU). FEHJ is the first amongst the proposed multi super specialty hospitals to be set up in Rajasthan. FEHJ is the first hospital in the country to attain NABH Accreditation in minimum stipulated time after commencement of operations and was re-accredited on 27th April 2011. FEHJ is a super-specialty hospital backed by multispecialty.

Super Specialties- Cardiology & Cardiac Surgery, Renal Sciences, Neuro Sciences, Gastro-Intestinal sciences.

Multi Specialties - Orthopedics & Joint Replacement, Diabetes & Endocrinology, Dermatology, Internal Medicine, Pulmonary, Medicine, Ophthalmology, Dietetics, Physiotherapy and Preventive Health Check, General Surgery, Dental Surgery, Cosmetic & Plastic Surgery, ENT, Gynecology & Obstetrics, Pediatrics & Neonatology.

VISION OF THE HOSPITAL:

"Saving and enriching lives"

MISSION OF THE HOSPITAL

"To create a world-class integrated healthcare delivery &learning system in India, entailing the finest medical skills combined with compassionate patient care".

BRIEF HISTORY:-

Dr. Parvinder Singh was a visionary, a strategist, a thinker, an entrepreneur and leader par excellence. A rare personality, who always thought beyond his time and realized many of his dreams in a short span of life. FHL was formed with the sole objective of providing integrated healthcare by establishing a state-of-the-art health delivery system. The vision of the company is to become the most revered healthcare service provider in India. "Team Fortis" is committed to meet all healthcare needs of its clientele, starting from maintenance of good health to providing global standards in diagnostics, Therapeutic and Surgical requirements at the time of need. It aims to exceed customer expa ctations in terms of quality, service, safety and value for money through constant innovation and better product delivery. Jaipur, Aug 2, 2007 - Fortis Healthcare Ltd, one of the largest private healthcare companies in India, Thursday announced a multi-specialty hospital at Jaipur as part of its initiative to expand its operations in Rajasthan. The then Chief Minister, Mrs. Vasundhara Raje inaugurated the Fortis Escorts Hospital Jaipur (FEHJ) in the presence of Mr..Malvinder Mohan Singh, Chairman, Fortis Healthcare, Mr. Shivinder Mohan

FORTIS LOGO:-

The two hands that fuse seamlessly with a human form, express their re-assuring approach to health care. A constant reminder to all that patients centric care is fundamental to our ethos.

GREEN is the color of healing and is symbolic of Fortis's steadfast focus to ensure the health and wellbeing of those they minister to.

RED is expressive of the dynamic zeal with which Fortis strive to make it a reality

The Fortis logo is the indelible assurance that their expertise will always be tempered with humanity.

FORTIS VALUES:-

POINT

- Patient Centricity
- Ownership
- Integrity
- Innovation
- Team Work

FORTIS

- Friendly
- Organized
- Respectful
- Timely
- Innovative
- Sensitive

FORTIS GROUP:

Founder Chairman: Late Dr. Parvinder Singh

Executive Chairman: Mr. Malvinder Mohan Singh

India CEO: Mr. Bhavdeep Singh

Fortis Jaipur inaugurated on 2nd August 2007

No. of beds – Currently: 245, Capacity: 350

NABH accreditation received in June 2008 (within 10 months of operations, NABL & Blood Bank.

INFRASTRUCTURE:

The infrastructure facilities of Fortis Escorts Hospital, Jaipur, are par excellence, such as:

C arm with digital subtraction angiography

Flat panel cath lab

Advanced pathological lab

Mobile X-Ray

64 Slice CT scan

TMT, ECHO, HOLTER recorder and monitor and ECG to help non-invasive cardiac investigations.

500mA image intensifier TV

Digital CR reader

X- Ray

LOCATION:

The access to the hospital is very easy. The hospital is located on JLN Marg road, Jaipur. The address of the hospital is:

Fortis Escorts Hospital, Jaipur

Jawahar Lal Nehru Marg,

Malviya Nagar,

Jaipur- 302107

Rajasthan, India

Tel: 91-141-2547000

AREA:

Spread over 6.68 acres with an investment of Rs. 1.10 billion, it has an operational bed facility of 245 beds with an installed bed capacity of 300 beds.

NUMBER OF DEPARTMENTS:

There are presently 34 functional departments in the hospital comprising of Clinical and Non clinical departments. The detailed information about each department visited is given later. The list of functional departments is as follows:

Clinical departments:

1. Infection control
2. CSSD (Central Sterile Service Department)
3. Physiotherapy
4. CTVS
5. SICU
6. NICU
7. LDR
8. Operation theatres
9. Triage/Emergency
10. HDU (High Dependency Unit)
11. Radiology
12. General ward
13. Laboratory's
14. Dietetics
15. MICU
16. CCU
17. Dialysis
18. Cath Lab

Non-clinical departments:

1. Engineering
2. Biomedical Engineering
3. Finance
4. Marketing
5. Human Resource
6. House keeping
7. Laundry
8. Pharmacy
9. Medical Records
10. Food & beverages
11. Security
12. Central stores
13. Quality Assurance
14. Research
15. Patient Welfare Department
16. Information Technology

SERVICES PROVIDED:

There is a long exhaustive list of services provided by the hospital comprising of clinical and non-clinical services. Both the services go hand in hand for maintaining the efficacy and efficiency of the organization for the patient and staff welfare.

Clinical services:

1. Cardiac Surgery
2. CTVS
3. Cardiology
4. Renal Science

5. Nephrology
6. Urology
7. Neurology
8. Neuro Surgery
9. Gastro Intestinal Diseases
10. Internal Medicine
11. Pulmonology
12. Endocrinology
13. Dermatology
14. Psychiatry
15. General Surgery
16. Plastic Surgery
17. Pediatric Surgery
18. Obstetrics
19. Gynecology
20. Pediatric
21. Neonatology

Non-Clinical services:

1. Housekeeping & Laundry
2. Pharmacy
3. Medical Records
4. Food & beverages
5. Security
6. Central stores
7. Training and development

A STUDY ON TURN AROUND TIME IN RADIOLOGY DEPARTMENT IN FORTIS HOSPITAL JAIPUR

RADIOLOGY DEPARTMENT

INTRODUCTION

Radiology is a medical specialty that employs the use of imaging to both diagnose and treat disease visualized within the human body.

Radiology department in FORTIS is a fully equipped department, with a team of highly qualified doctors, technicians, and other support staff.

It is located on the ground floor of hospital and is easily accessible. For the transfer of IPD patients to radiology there are two lifts. There is a properly accessible reception area, there is a patient as well as attendant waiting area with comfortable sitting arrangement. also, there are changing room for patients which have clean and hygienic patient gown.

ORGANIZATIONAL STRUCTURE OF RADIOLOGY DEPARTMENT:

Head of the department:-**Dr Narendra Gupta**

No of doctors in radiology deparment:5

No of technicians in department:12

No of admin persons in radiology:3

The department has total staff of: -32

The department has:

- 2 xray examination room
- 1 xray processing area
- 1 mri examination room with the processing room
- 1 ct scan examination room and a processing room combined with the MRI processing room.

Following services provided by the radiology: -

- X-RAY
- Ultrasonography (USG)
- Magnetic resonance imaging(MRI)
- Computed tomography(CT-scan)
- Portable X-RAY
- Portable ultrasonography
- Mammography

BACKGROUND & OBJECTIVE

TURNAROUND TIME:

Turnaround time is the total time taken between the submission of a programmed /process for execution and the return of the complete output to the customer/user.

Time taken to meet demand of customer for any material or services is termed as lead time. While time taken to complete the project from initiation to finish is termed as turnaround time.

RATIONALE:

Our aim for doing turnaround time studies is to establish rules of turnaround time that guaranteed optimal performance during a given time period and reduces the waiting time for needed to get work accomplished so that such time can be used to increase the staff reporting time efficiency in providing reports to patients. Turnaround time studies have been done in many ways both to ascertain how long it takes to do a given job and to improve it through setting production goals and reducing unnecessary steps in a process. Our turnaround time study is entirely focused on the time aspect of work, or how long it takes to do a job, and is critical in getting fundamental information on how a process is working.

OBJECTIVE

- To study the gap analysis in turnaround time in radiology department.
- To study the time consumed at every step during the radiological investigation procedure.

METHODOLOGY

- SAMPLE SIZE: Total no of 102 OPD patients were traced.
- SIZE OF UNIVERSE:467
- SAMPLE DESIGN: random convenience sampling
- TYPE OF STUDY: descriptive and exploratory
- TYPE STUDY HOURS: 32hrs

DATA COLLECTION TOOL:

SN	UHID	BILLING TIME	REPORTING TIME	GAP OBSERVED	INVESTIGATION	INVESTIGATION TIME	REPORT READY	GAP OBSERVED	DATE

- **Billing Time**: This category was used to track the bill received time of the patient, which initiates the turnaround time for the radiology department.

- **Reporting Time**: This category was used to track the patient arrival time on the radiology reception that is when patient arrives for investigation.

- **Gap Observed**: This category was used to analyze the time gap between billing time of the patient and reporting time of the patient at the radiology reception.

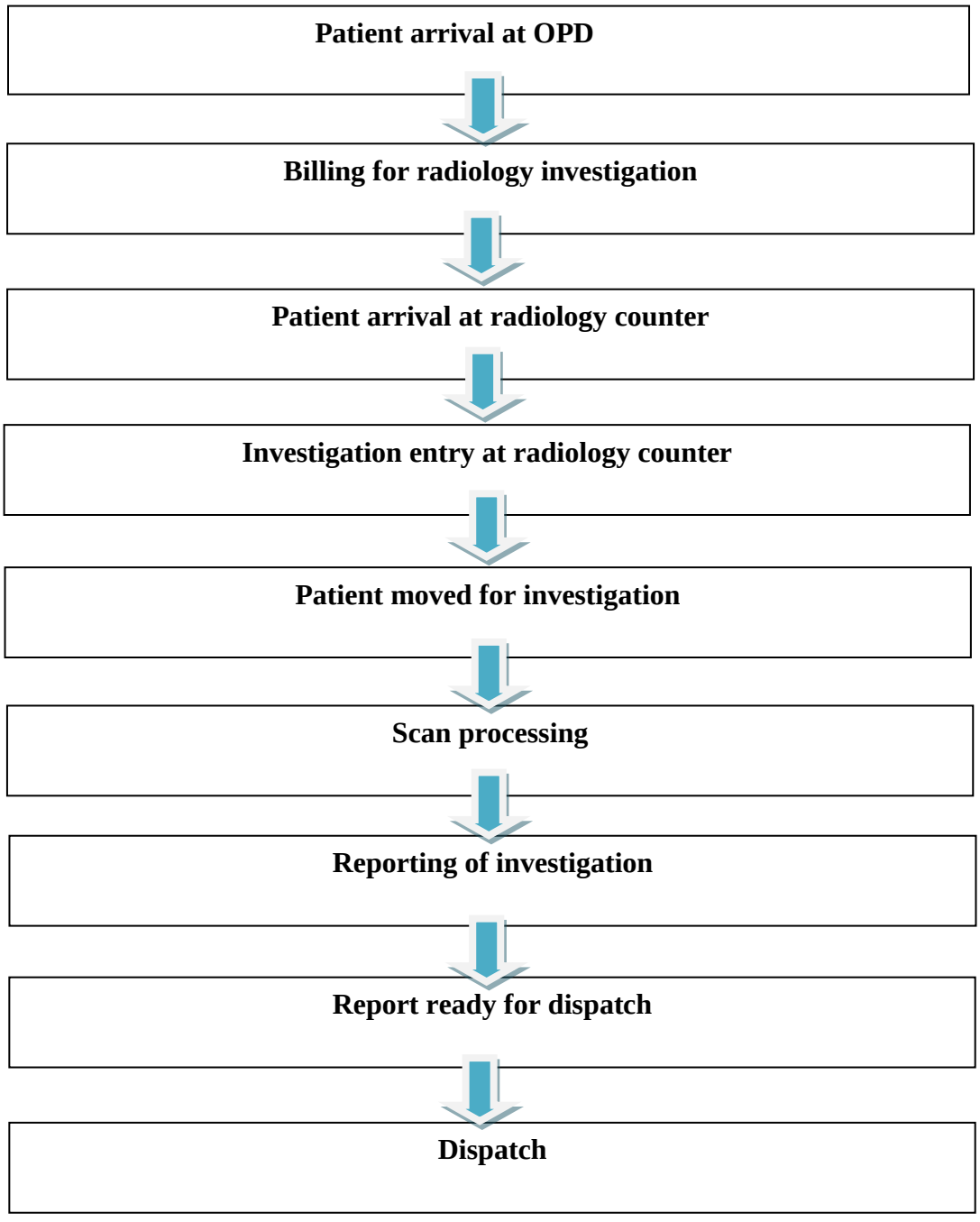
- **Investigation**. This category was used to differentiate between different radiology investigations like MRI, CT scan, X-ray, USG.

- **Investigation time**: This category was used to track the time for investigation procedure of the patient.

- **Report Ready**: This category was used to track the time when the report was received at the reception to be dispatched to the patient.

- **Gap observed**: This category was used to analyze the gap between report ready time and investigation conducted for the patient.

FLOW OF THE PATIENTS FROM BILLING TILL REPORT



RESULT:

DIAGNOSIS	% REPORTED WITHIN TAT	% REPORTED EXCEEDING TAT
USG	36.67	63.33
X ray	44.07	55.93
CT and MRI	53.85	46.15

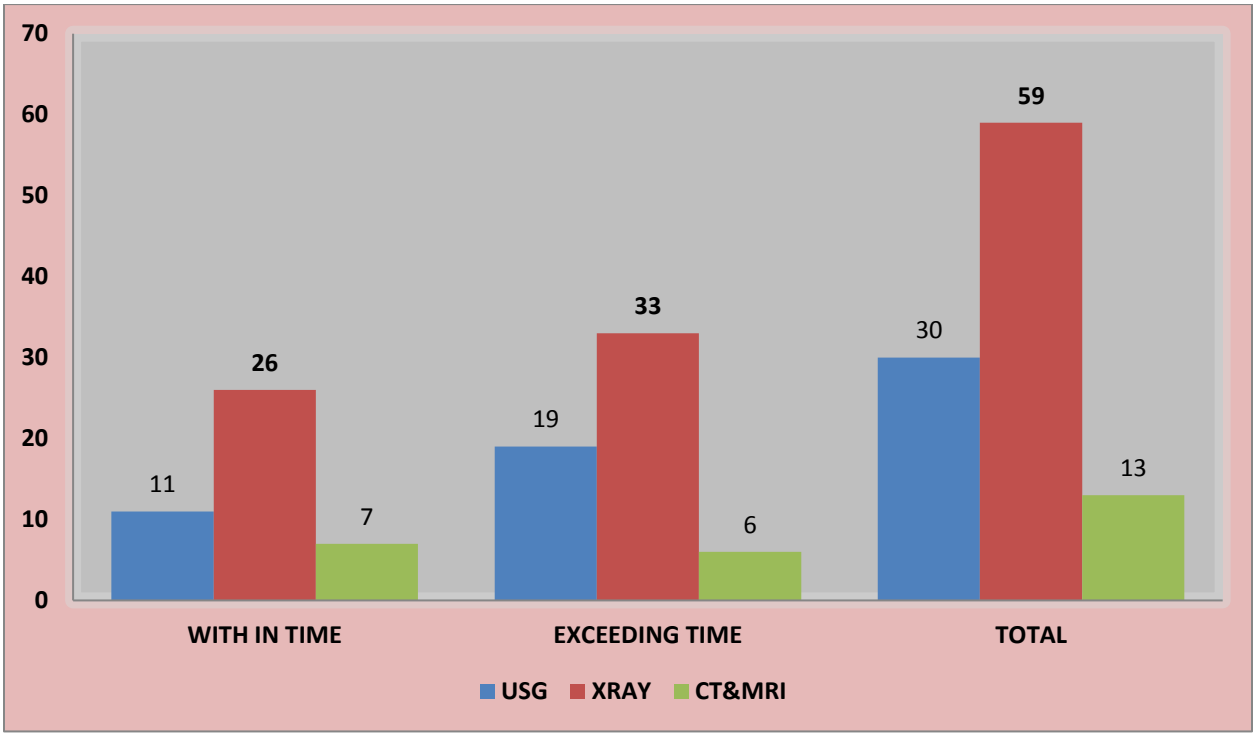
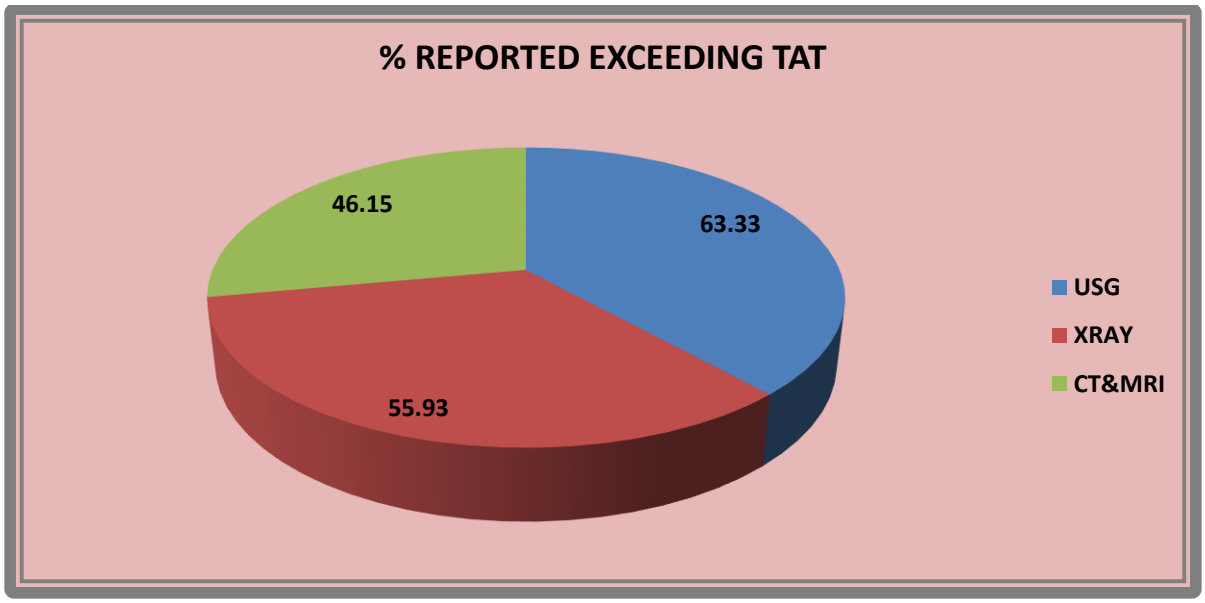
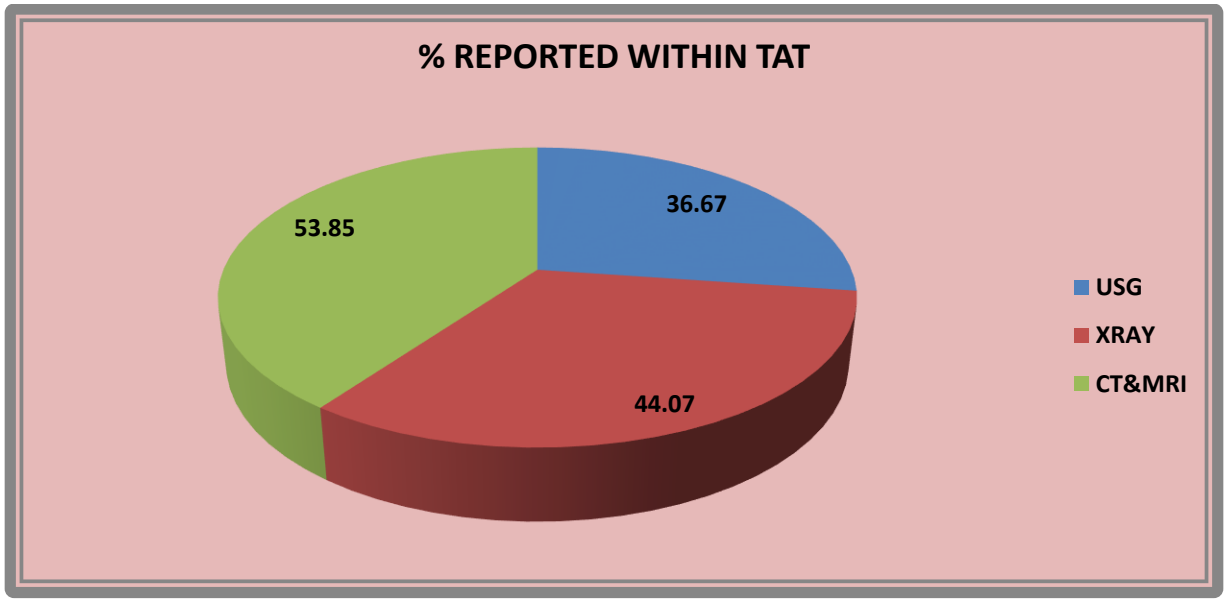


Fig: Graph representing number of test exceeding the TAT and within the TAT for respective radiological investigation.


% REPORTED EXCEEDING TAT
46.15
63.33
55.93
USG
XRAY
CT&MRI


% REPORTED WITHIN TAT
36.67
53.85
44.07
USG
XRAY
CT&MRI

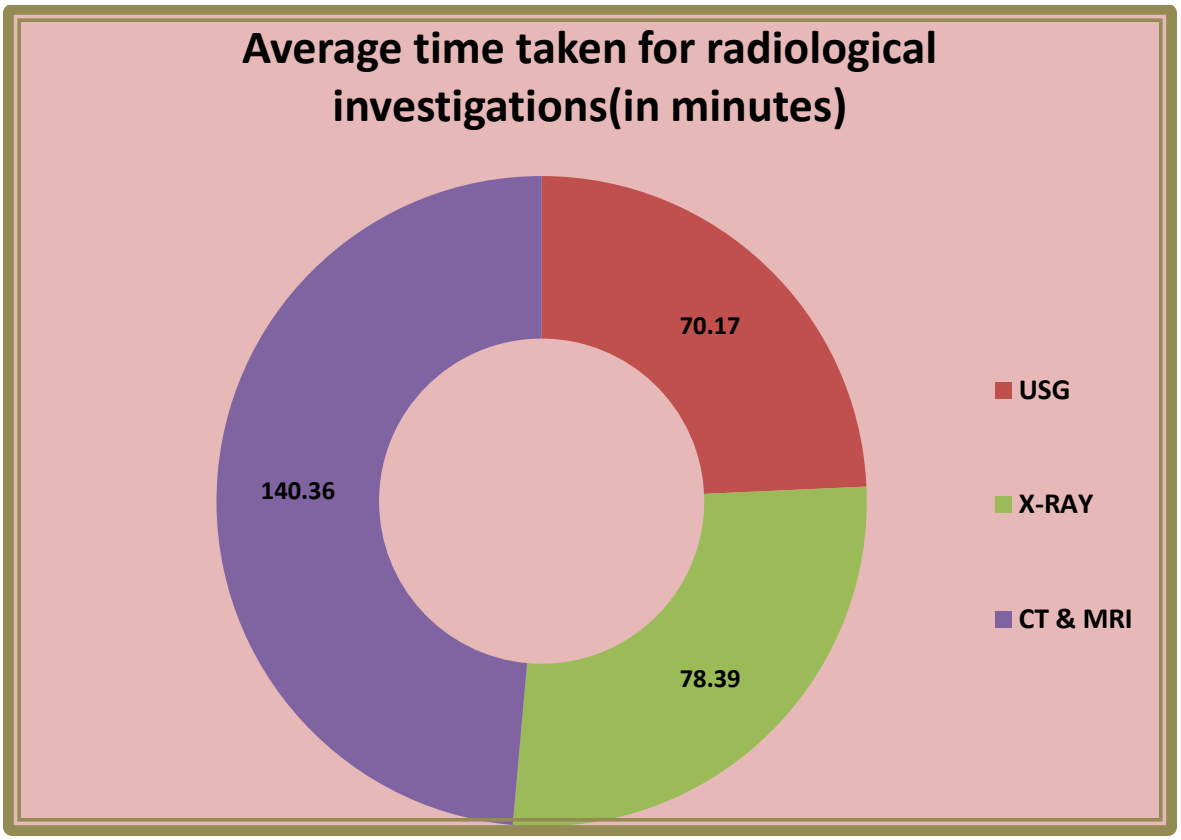


Fig: Graph represents the average time taken for radiological investigations (in minutes)

So our observation shows:

- Average time taken in x-ray investigation is 78. 39min.this time is calculated from billing time to the report ready time.

- For USG investigation average time taken for getting report after billing is 70.17min.
- Average time taken in CT & MRI for getting the report after billing is 140.36min.

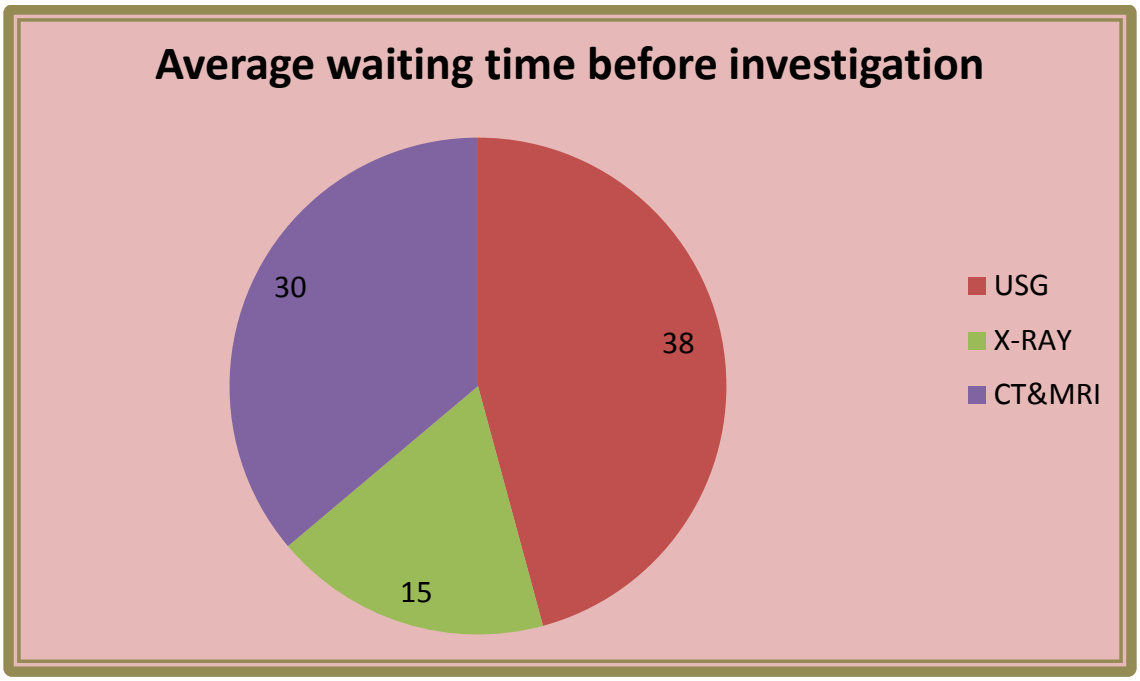


Fig: shows average waiting time before investigation

This fig shows us that average waiting time for USG is maximum that is 38 mins.

X-RAY has lowest waiting time before procedure that is 15 mins.

OBSERVATION:

- Insufficient waiting area for patients which results in chaos near the examination room.
- Both the machines (portable also) of USG and x-ray be used at the time of heavy rush.
- Duty staff provides proper instructions for prior preparation of the procedure.
- Transferring of films from reception to the department leads to delay in final reporting.
- Lack of staff motivation was observed decreasing the job effectiveness and efficiency.
- Children walk easily in prohibited corridors and staff not give instructions for this to their parents.
- No proper sequencing of the IPD patients for the procedure.
- Sometimes changing gowns were not available.

RECOMMENDATION:

- Procedure room should be optimized fully (room not left empty).
- There should be proper sequencing of IPD patients in between the OPD patients or IPD and OPD should be separated to meet the turnaround time and avoid chaos as it will lead to effective working of both the departments.
- Staff should be more responsible towards their tasks.
- Shortage of staff was observed, appointment of more staff can rectify the problem.

.

LIMITATION: -

- Only OPD patients were observed IPD patients not included.
- Study hours were limited.
- There is limited sample size.

CONCLUSION

From this study it is concluded that TAT for USG is 15 min, but 63.33 % patients observed exceeding the TAT. TAT for X-RAY is 30 minutes but 55.93% patients observed exceeding this time.

TAT for CT&MRI is 2hr but 46.15% patients observed exceeding this time. To improve work efficiency and patient satisfaction this exceeding time must be decreased. Healthcare sector is the basic necessity for our country, and to deliver best of it, it is important to meet turnaround time, so that a hospital can cater to as many patients possible efficiently and effectively.

NABH LEARNINGS

National Accreditation Board For Hospitals And Healthcare Providers

For the initial 26 days of my summer training, I was fortunate to be able to give my contribution in the Reaccreditation process of Fortis Escort Hospital Jaipur, as the NABH team assessed the hospital from 5th May 2017 to 7th May 2017. During these days I performed and observed following tasks.

Documentation

- Documentation and compilation of respective Quality Manual/ Safety Manual/ Infection Control Manual/ SOP containing the related standards of quality assurance
- NABH guidelines of various departments were compiled.
- Documentation and updation of committee files as per the meeting conducted in last year.
- Data related to all Seventy Quality Indicators were compiled and checked.
- Documentation of Unit Binders for 37 department. Unit Binders were updated with Contents, Vision and Mission, Quality Policy, Pastoral List, Interpreter List, Standard Operating Procedure, Scope of Services, Unit Staff, Other Documentation including Hospital Policy, Employee Policy, Patient Rights and Rules, Amendment sheet.
- Job Cards were dispatched to members of nucleus team.

Mock Drills

- A Code RED mock drill was conducted to ensure disaster management and awareness amongst the staff. Safety plan in case of fire was demonstrated along with action of fire brigade extinguishing the fire and emergency ambulance set up.
- A Code GREY mock drill was conducted to ensure internal disaster and awareness amongst the staff. Safety plan in case of terrorist attack was demonstrated with the help of ATS and police force.
- We made report of these and previous mock drills too.

In both the mock drills the procedure of emergency call to action and clearing of code was observed. Proper functioning and response of the staff was observed.

NABH Display Corner

- Display corners on respective floors were checked and updated which reflect important NABH information and policies.

Correlation Of Laboratory

- Correlation data for Laboratory and Radiology was made for previous one year to check the correlation quality indicator as per NABH standards.

Assessment Procedure

- NABH audit was conducted by a team of three assessors, one was principal assessor and other two as assessors along with an observer.
- A schedule was prepared by assessors for three days audit and report preparation in accordance of which the audit was conducted. It was divided into pre-lunch and post-lunch session.
- Assessor assessed each department on their compliance with NABH standards and any non-compliance or minor observations. On final day a review meeting was conducted.

REFERENCES

Marcelo Lopetegui, P.-Y. Y. (2014). Time motion studies in healthcare: What are we talking about? Journal of Biomedical Informatics , 292-299

Sachiko Shimizu, R. T. (2011). Nursing Business Modeling with UML: From Time and Motion Study to Business Modeling, Modern Approaches To Quality Control. InTech

Zhihua Tang, J. M. (2006). A Time-Motion Study of Registered Nurses' Workflow. AMIA Symposium Proceedings , 759-763

Ann Hendrich, M. P. (2008). A 36-Hospital Time and Motion Study: How Do Medical-Surgical Nurses Spend Their Time? The Permanente Journal , 25-34

M. Abbey Mphil, G. C. (2012). Understanding the work of intensive care nurses: A time and motion study. Australian Critical Care , 13-22