

# To study the process flow and monitoring of Turn Around Time (TAT) at Preventive Health Check ups (PHC) Station and Radiology of Eternal Hospital



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# CONTENTS



Introduction

Research Question

Aim

Objectives

Research Methodology

Ethical Considerations

Findings

Observations

Suggestions

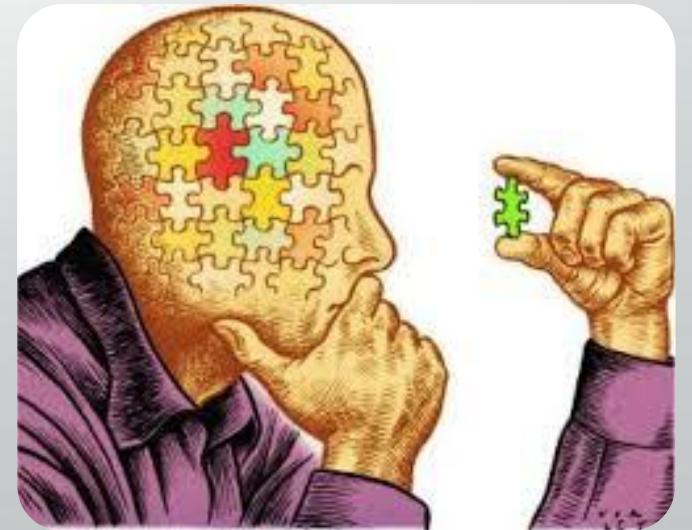
Conclusion

# INTRODUCTION

- OPD often called as “SHOP WINDOW” of the hospital ,is the first interaction platform ,the first point of the contact between hospital and the community.
- It thus acts as a mirror and reflect the image of the hospital and its efficiency.
- At EHCC a team of highly qualified and experienced medical personnel have developed the Health Check Programme.
- The packages included in this programme are designed to give a complete Check-up and, within their limitations, detect any latent health problems.
- For ease of patients a separate station is established in OPD 1 known as “PHC Station”.

# RESEARCH QUESTIONS

- What are the leading factors resulting in the waiting time of patients during and after investigations?
- What is the turn around time of patients from registration to dispatching the investigation reports?



# AIM

- To identify the responsible factors along the patient pathway to improve patient waiting time after investigations at PHC of EHCC Hospital, Jaipur.





# OBJECTIVES

To observe  
the  
investigation  
process in  
OPD 1.

To  
understand  
the process  
flow at PHC.

To calculate  
Turn Around  
Time of  
patients after  
investigation  
at PHC

To calculate  
the Turn  
Around Time  
of OPD & IPD  
patients after  
investigations  
in Radiology  
Department.

To propose  
alternatives  
to make the  
patient flow  
process of  
investigations  
efficient with  
reduced  
waiting time.

# RESEARCH METHODOLOGY

## Type of Study

- Descriptive study

## Duration

- 10<sup>th</sup> February 2016 to 26<sup>th</sup> April 2016

## Sampling Method

- Simple Random

## Study Area

- PHC & RADIOLOGY Dept. of Eternal Hospital, Jaipur

# STUDY METHOD

- The observational study was conducted at the PHC Station in the OPD<sub>1</sub> and Radiology department ,the TAT was measured and discussions were held with the respective department head.
- The analysis was done with the help of Microsoft Excel.



# DATA COLLECTION

- Primary data was collected through direct observations and is recorded in Turn Around Time checklist.

[illegible]

## Turn Around Time Checklist for investigation reports

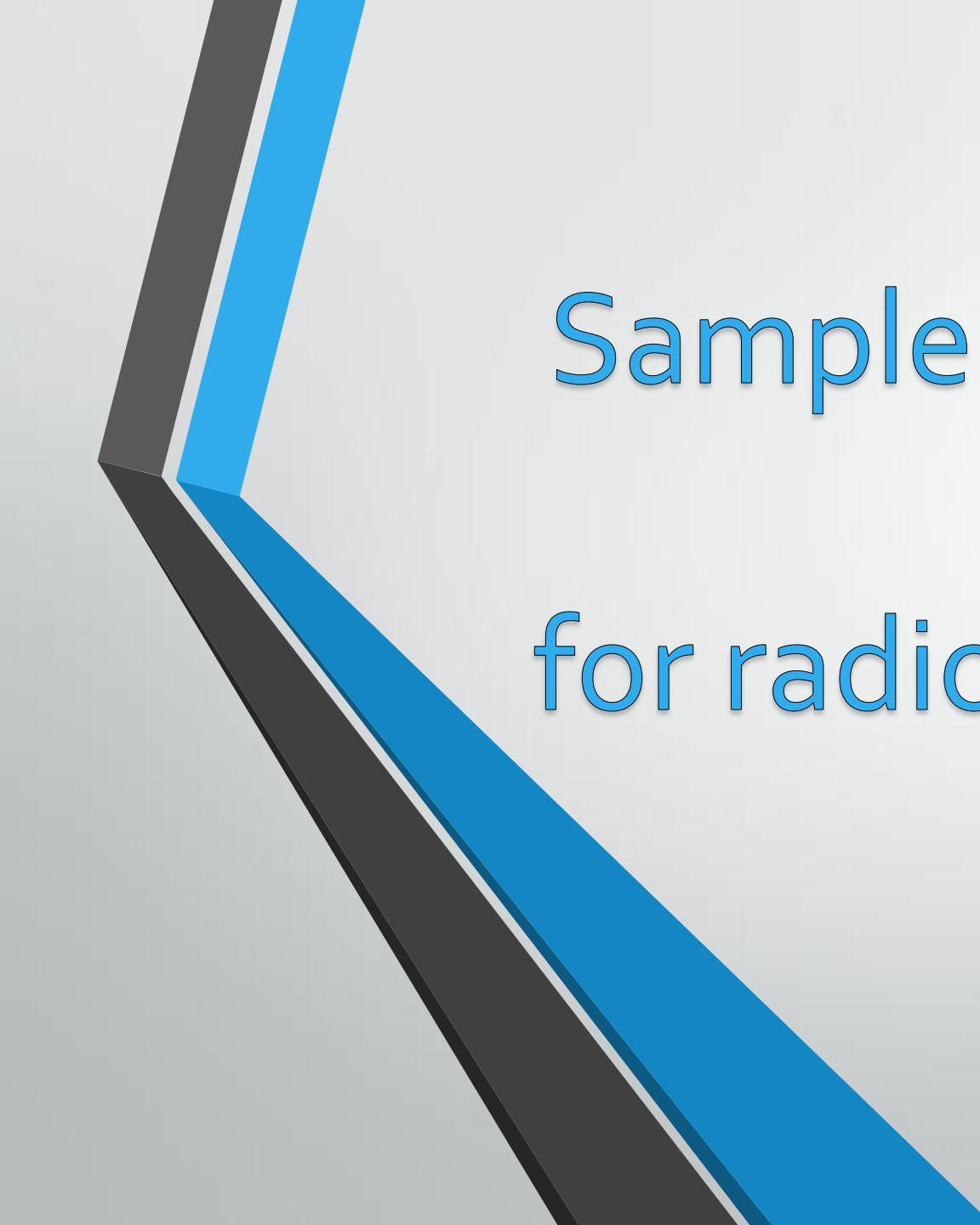
[illegible]

## Turn Around Time Checklist Radiology (OPD & IPD)



# Sample turn around time checklist for investigation reports at PHC station

| IN<br>TIME | UHID  | ECHO                      |                           |                         |                        | XRAY                      |                           |                         |                      | TMT                       |                           |                         |                     | HEMATOLOGY                |                           |                         |                                    | CLINICAL<br>PATHOLOGY     |                           |                         |              | OUT<br>TIME | TAT  |
|------------|-------|---------------------------|---------------------------|-------------------------|------------------------|---------------------------|---------------------------|-------------------------|----------------------|---------------------------|---------------------------|-------------------------|---------------------|---------------------------|---------------------------|-------------------------|------------------------------------|---------------------------|---------------------------|-------------------------|--------------|-------------|------|
|            |       | SAMP<br>LE<br>TIME<br>(A) | REPO<br>RT<br>TIME<br>(B) | ACTU<br>AL<br>TIME<br>© | TAT –<br>ECHO<br>(C-A) | SAMP<br>LE<br>TIME<br>(A) | REPO<br>RT<br>TIME<br>(B) | ACTU<br>AL<br>TIME<br>© | TAT<br>XRAY<br>(C-A) | SAMP<br>LE<br>TIME<br>(A) | REPO<br>RT<br>TIME<br>(B) | ACTU<br>AL<br>TIME<br>© | TAT<br>TMT<br>(C-A) | SAMP<br>LE<br>TIME<br>(A) | REPO<br>RT<br>TIME<br>(B) | ACTU<br>AL<br>TIME<br>© | TAT<br>HEMA<br>TOLO<br>GY<br>(C-A) | SAMP<br>LE<br>TIME<br>(A) | REPO<br>RT<br>TIME<br>(B) | ACTU<br>AL<br>TIME<br>© | TAT<br>(C-A) |             |      |
| 8:29       | 10043 | 8:29                      | 11:10                     | 11:40                   | 3:11                   | 8:32                      | 9:50                      | 12:30                   | 3:58                 | 8:29                      | 10:50                     | 12:10                   | 3:41                | 8:29                      | 10:02                     | 13:20                   | 4:51                               | 8:29                      | 11:42                     | 13:20                   | 4:51         | 16:55       | 8:26 |
| 8:32       | 10045 | 8:32                      | 10:59                     | 11:40                   | 3:08                   | 8:46                      | 9:51                      | 12:30                   | 3:44                 | 8:32                      | 11:13                     | 11:45                   | 3:13                | 8:32                      | 10:00                     | 13:15                   | 4:43                               | 8:32                      | 11:44                     | 13:15                   | 4:43         | 11:55       | 3:23 |
| 8:27       | 33239 | 8:27                      | 10:02                     | 10:35                   | 2:08                   | 8:27                      | 11:18                     | 12:40                   | 4:13                 | 8:27                      | 10:31                     | 11:05                   | 2:38                | 8:45                      | 11:09                     | 13:10                   | 4:25                               | 8:27                      | 10:46                     | 13:10                   | 4:43         | 13:15       | 4:48 |
| 8:35       | 33180 | 8:35                      | 9:40                      | 10:35                   | 2:00                   | 8:35                      | 11:16                     | 12:40                   | 4:05                 | 8:20                      | 9:56                      | 10:35                   | 2:15                | 8:35                      | 11:12                     | 13:05                   | 4:30                               | 8:35                      | 10:47                     | 13:00                   | 4:25         | 13:10       | 4:30 |
| 8:46       | 33250 | 8:46                      | 9:45                      | 10:35                   | 1:49                   | 8:46                      | 11:17                     | 12:40                   | 3:54                 | 8:46                      | 11:08                     | 11:35                   | 2:49                | 8:46                      | 11:01                     | 13:36                   | 4:50                               | 8:46                      | 10:46                     | 13:42                   | 4:56         | 13:45       | 4:59 |



# Sample turn around time checklist for radiology (OPD & IPD)

| UHID  | OPD    |       |          |
|-------|--------|-------|----------|
|       | X Rays |       | TAT XRAY |
|       | In     | Out   |          |
| 19216 | 9:20   | 12:03 | 2:43     |
| 27170 | 9:34   | 12:03 | 2:29     |
| 35432 | 9:28   | 12:03 | 2:35     |
| 36705 | 9:57   | 12:03 | 2:06     |
| 36734 | 8:14   | 12:03 | 3:49     |

| UHID  | OPD        |       |      |
|-------|------------|-------|------|
|       | CT/MRI/USG |       | TAT  |
|       | In         | Out   |      |
| 36833 | 8:20       | 9:19  | 0:59 |
| 36834 | 8:19       | 9:18  | 0:59 |
| 36950 | 8:32       | 10:52 | 2:20 |
| 36399 | 8:33       | 11:20 | 2:47 |
| 35965 | 9:56       | 12:07 | 2:11 |

| UHID  | IPD    |       |          |
|-------|--------|-------|----------|
|       | X Rays |       | TAT XRAY |
|       | In     | Out   |          |
| 36377 | 8:46   | 14:14 | 5:28     |
| 11787 | 9:46   | 11:00 | 1:14     |
| 36559 | 2:59   | 12:43 | 9:44     |
| 36947 | 8:09   | 11:00 | 2:51     |
| 36932 | 9:41   | 12:07 | 2:26     |

| UHID  | IPD        |       |      |
|-------|------------|-------|------|
|       | CT/MRI/USG |       | TAT  |
|       | In         | Out   |      |
| 8840  | 8:05       | 16:02 | 7:57 |
| 36932 | 9:41       | 12:07 | 2:26 |
| 36944 | 9:45       | 12:07 | 2:22 |
| 36167 | 10:26      | 13:47 | 3:21 |
| 13739 | 10:06      | 13:47 | 3:41 |

# ETHICAL CONSIDERATIONS

Privacy of  
patients was  
maintained.

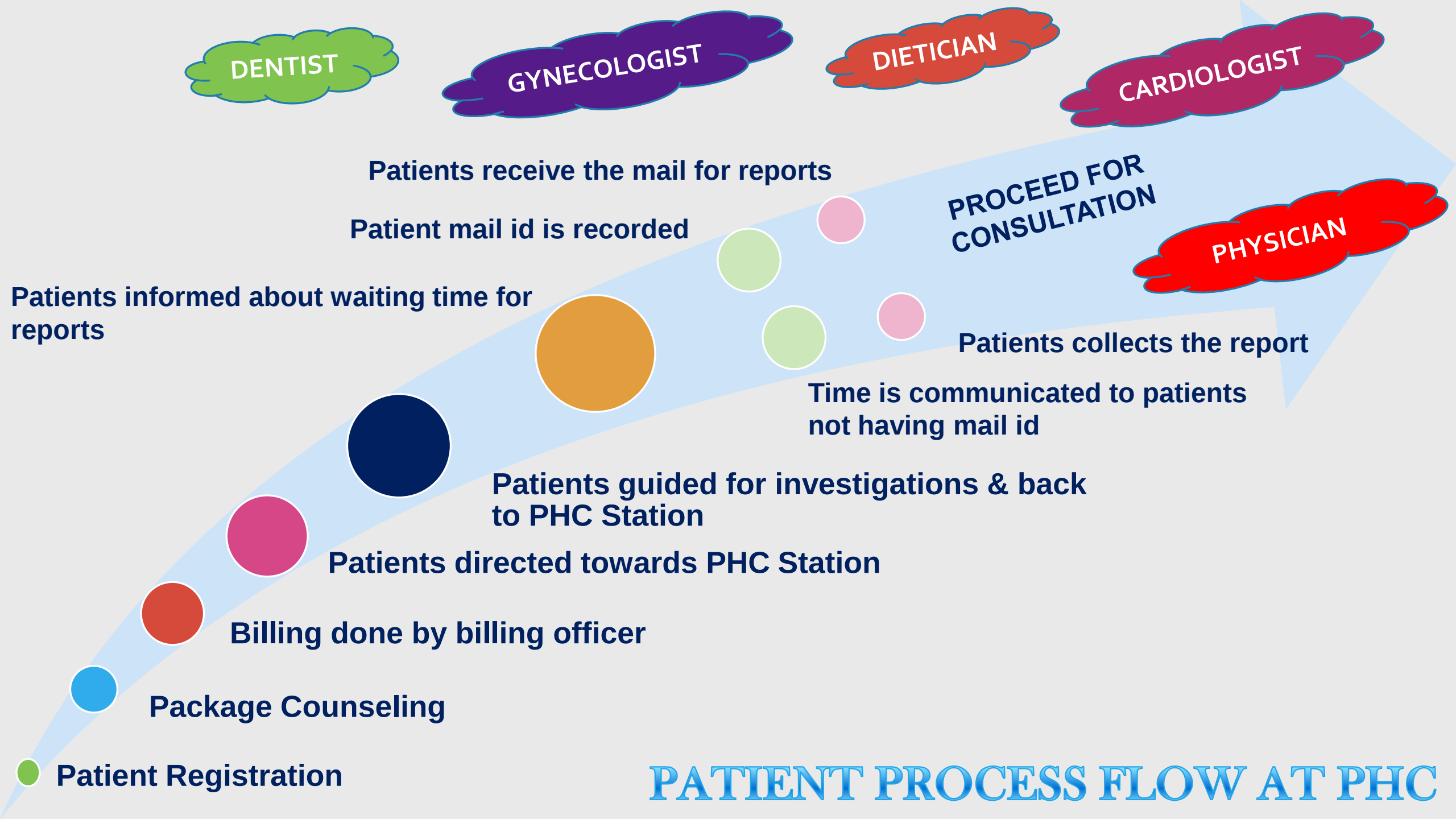
Project was  
executed with  
proper  
permission to  
authorities.

Privacy and  
confidentiality  
of data  
obtained was  
ensured.

Scientific  
honesty was  
maintained.



# Search Findings



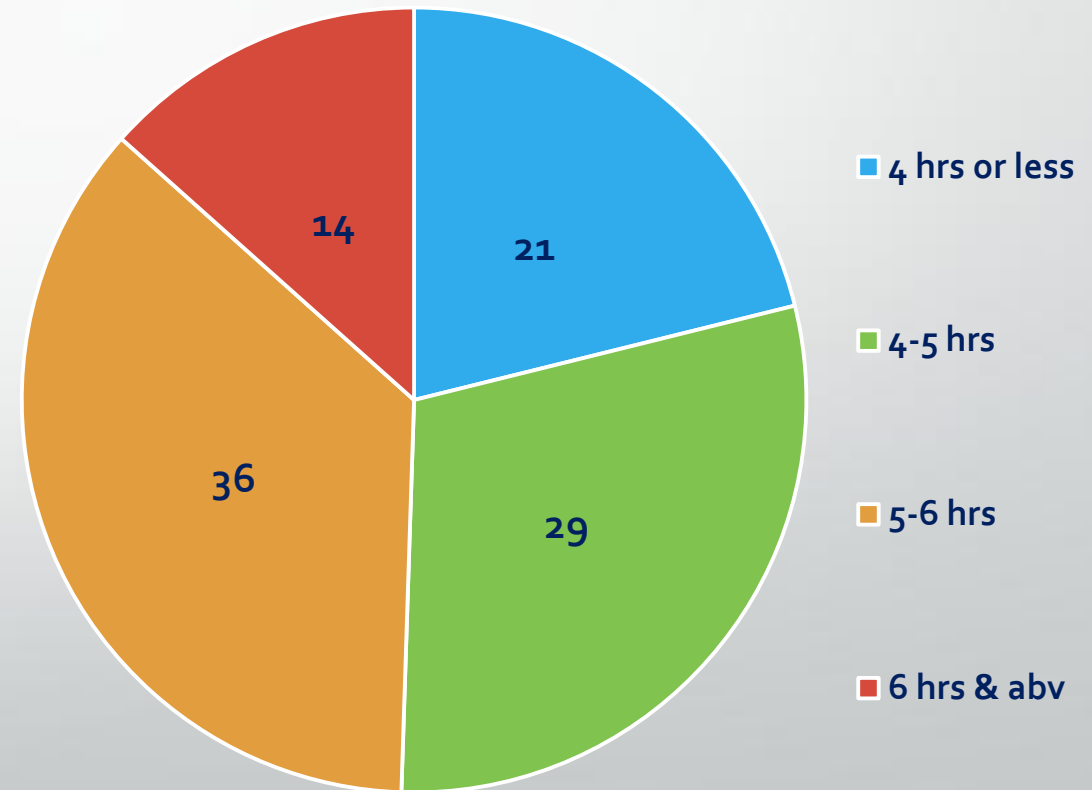
# IN-OUT TAT

IN= Patient billing time  
OUT= Patient collects the report or receives the report

- It was seen that only 21 % patients leave the hospital before 4 hrs ,whereas 79% people take more than 4 hours.

N= 194

Percentage TAT of patients  
(In-Out time)

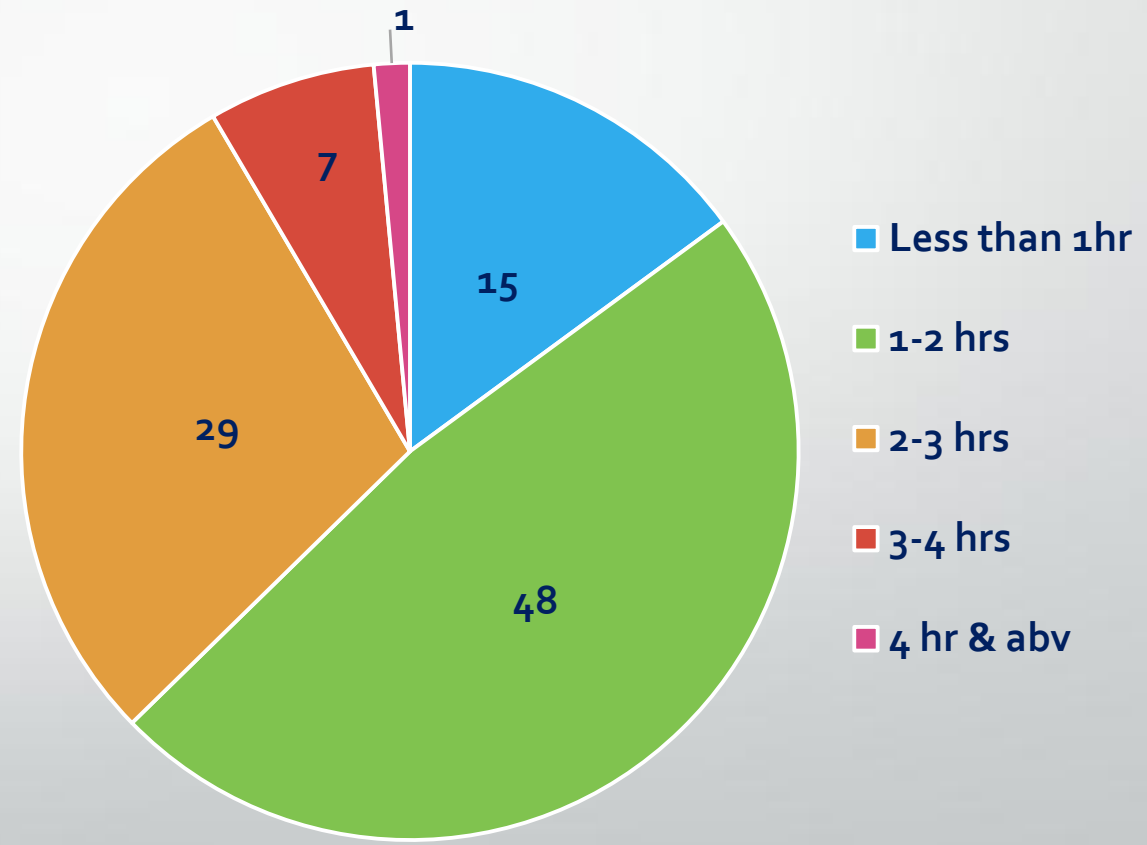


# ECHO

- It was observed that 92% of patients get reports before 3 hours.
- About 50% of the patients get the ECHO reports within 1 to 2 hrs.

N= 201

Percentage TAT for ECHO

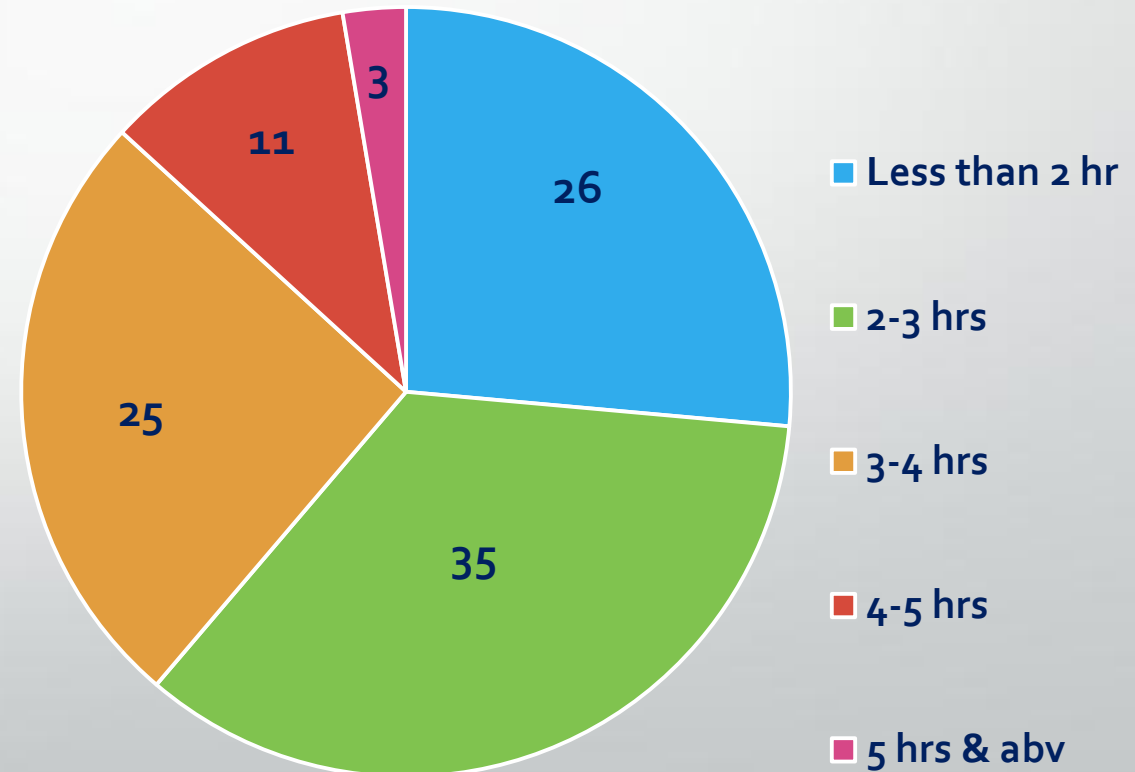


# XRAYS

- It was observed that 61% patients were getting the X-Ray reports within 3 hrs, whereas 39% are getting the reports after 3 hrs.

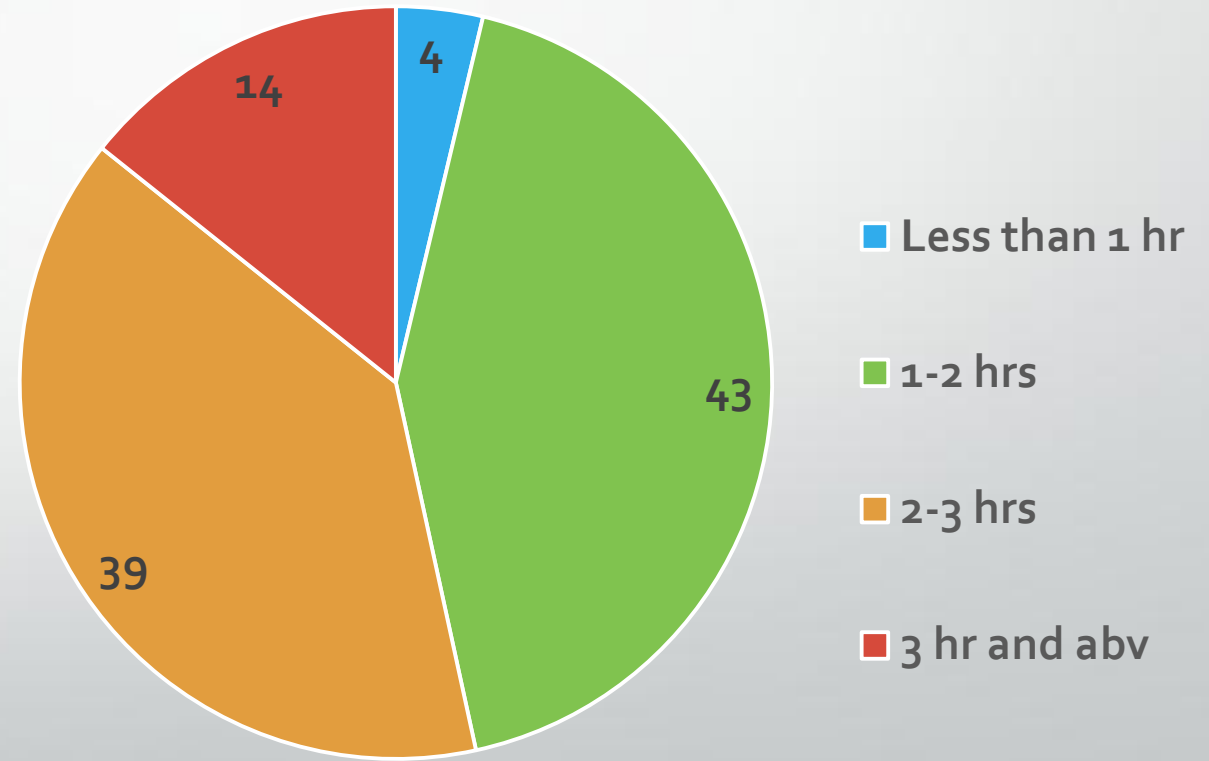
N= 227

Percentage TAT for X Rays



# TMT

Percentage TAT for TMT



- It was seen that 86% of patients are getting the reports before 3 hrs .

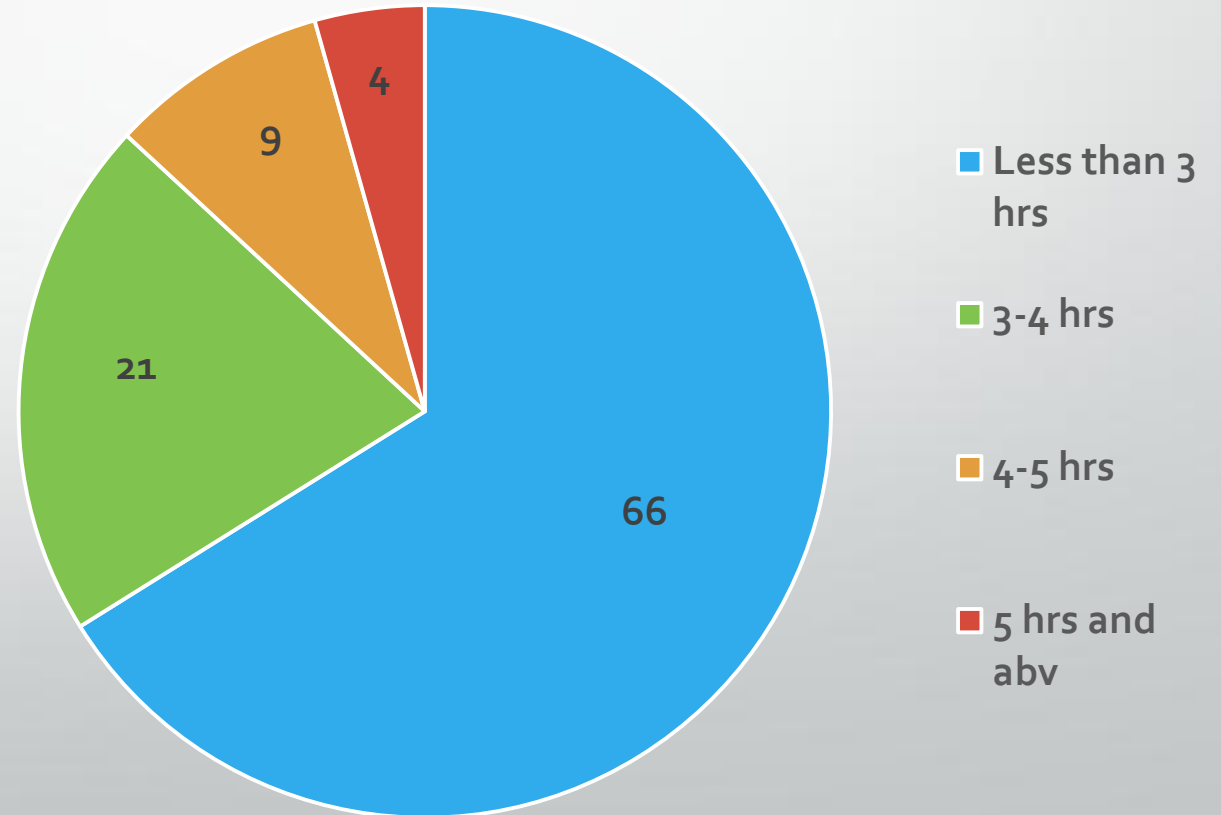
N= 161

# HEMATOLOGY

Percentage TAT for Hematology

- It was seen that 66% patients get the blood reports within 3 hrs whereas 34% of patients get the reports after 3 hrs.

N= 183

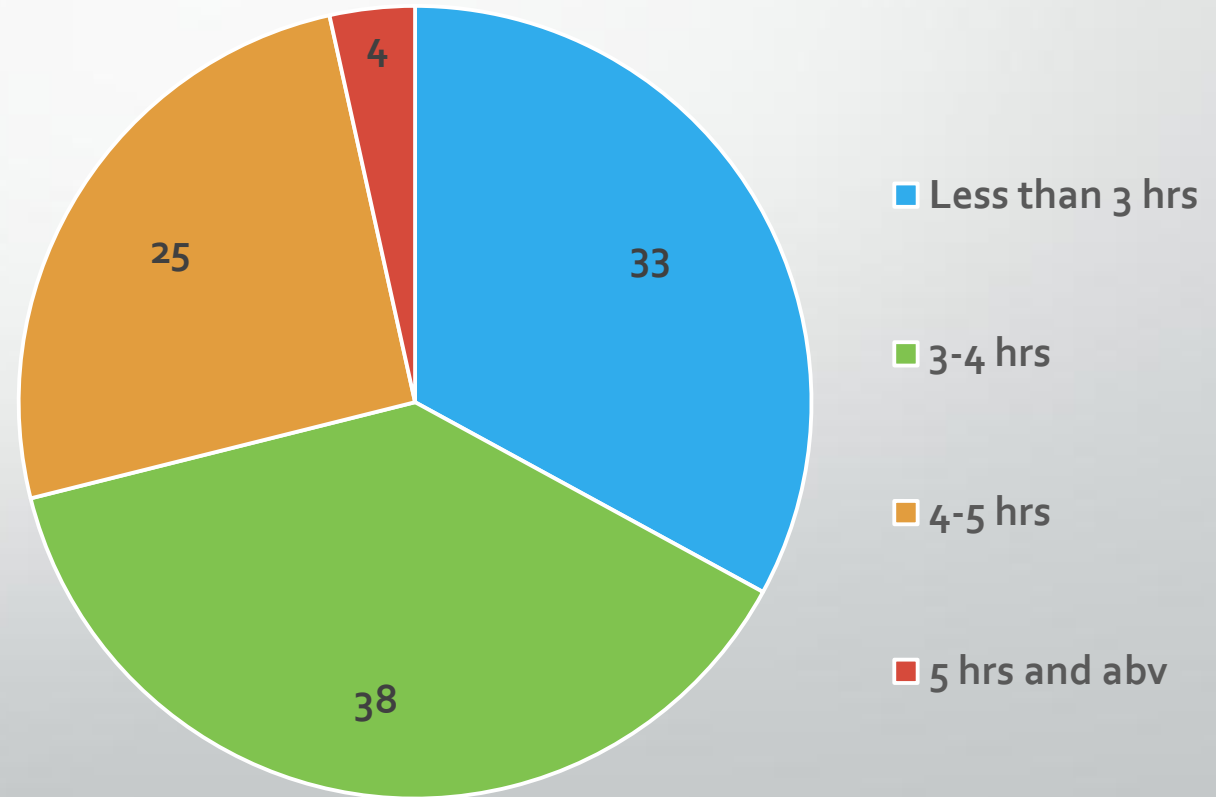


# PATHOLOGY

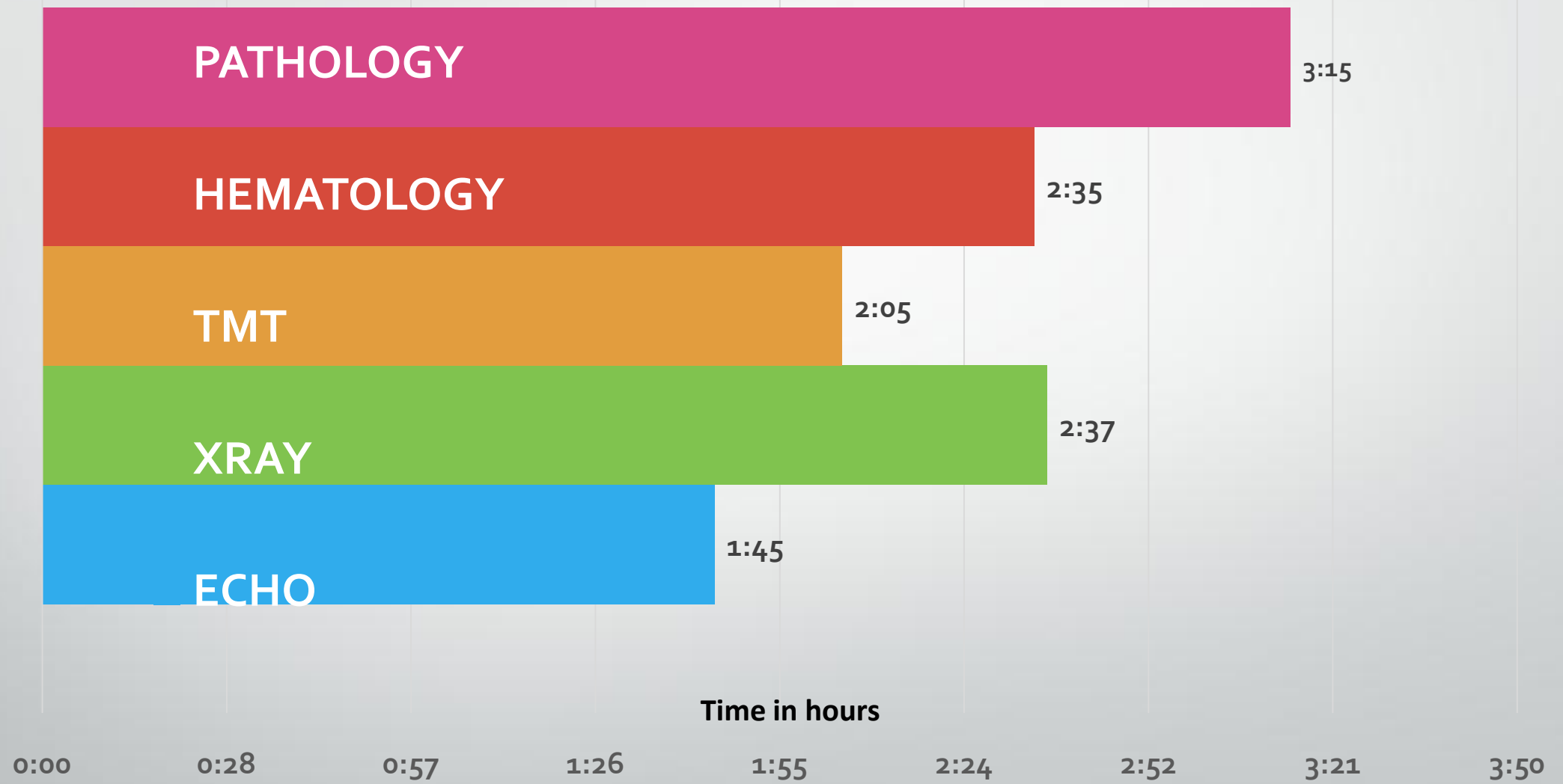
- Only 33 % patients get the pathology reports within 3 hours ,else 67% patients get it after 3 hrs.

N= 174

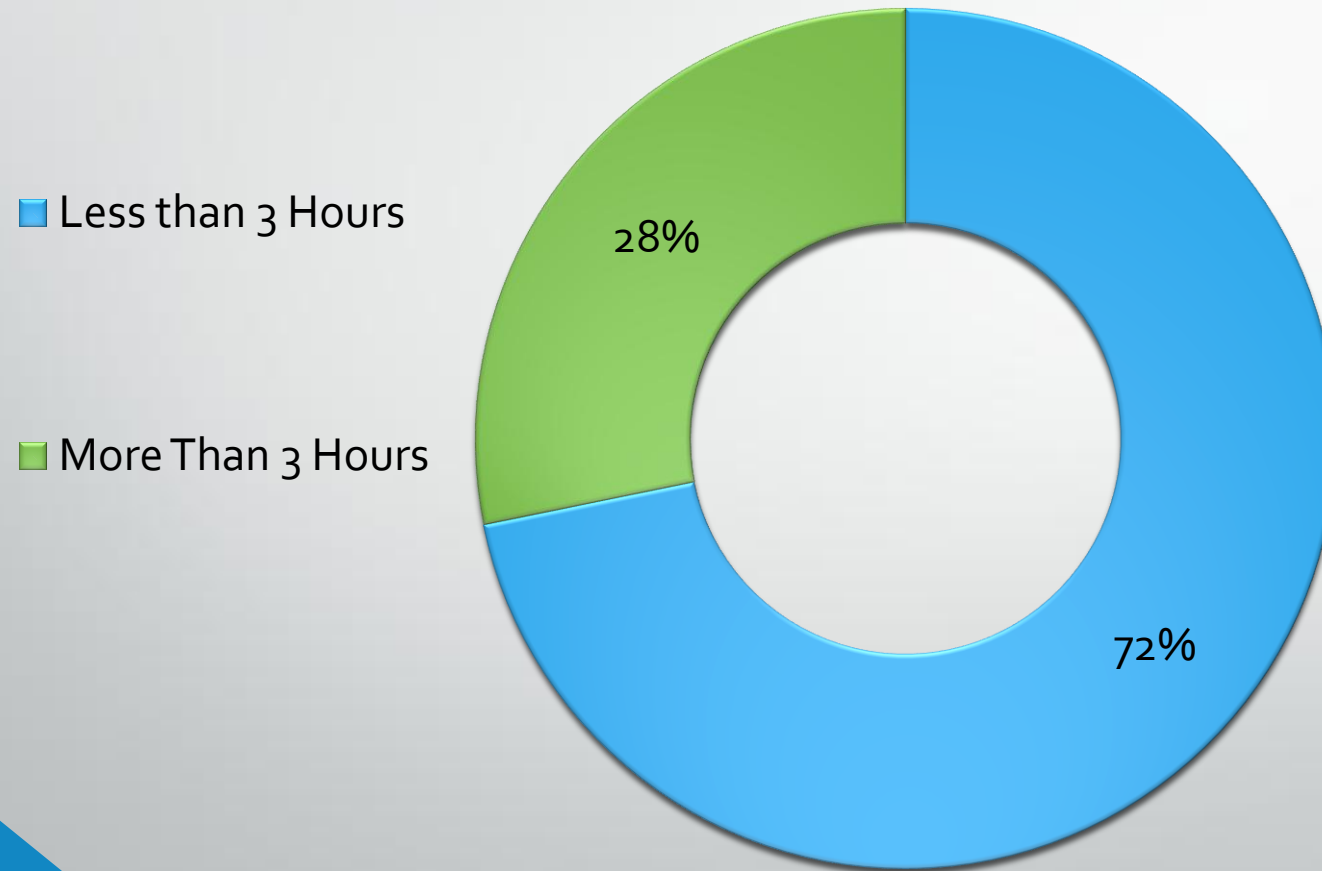
Percentage TAT for Pathology



## Average waiting time for reports at PHC station



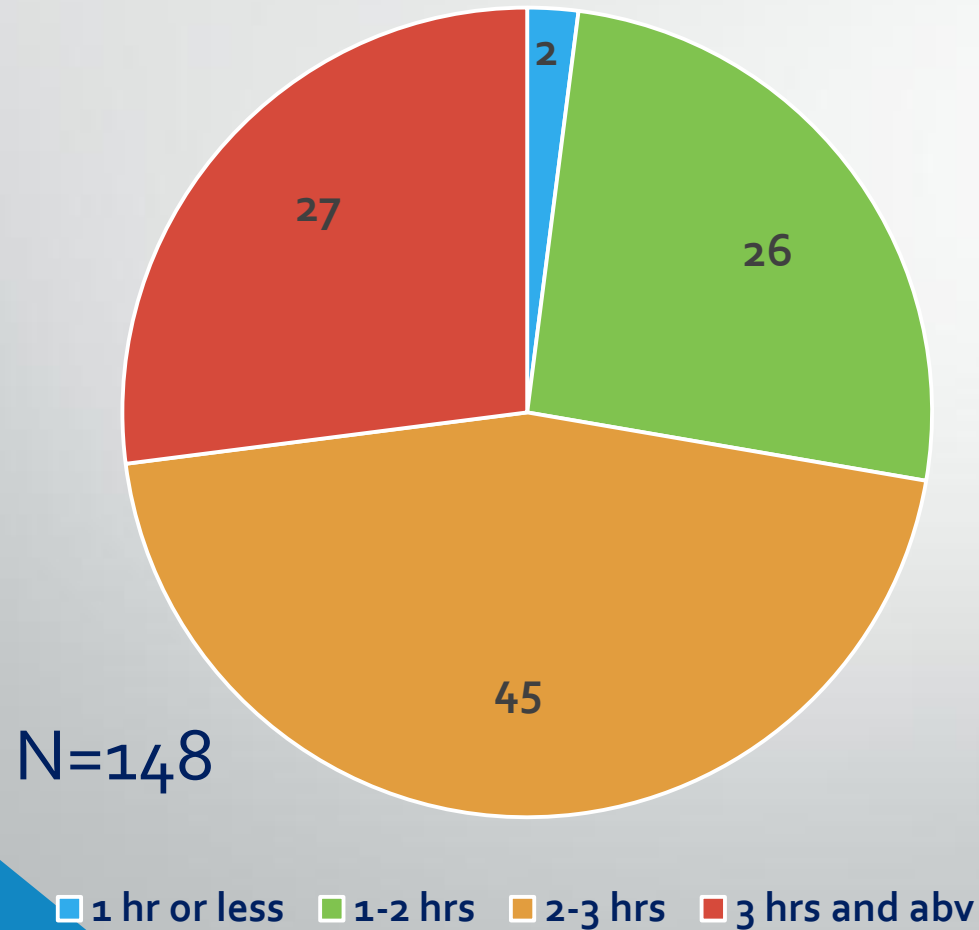
# WAITING TIME AFTER LAST TEST DONE



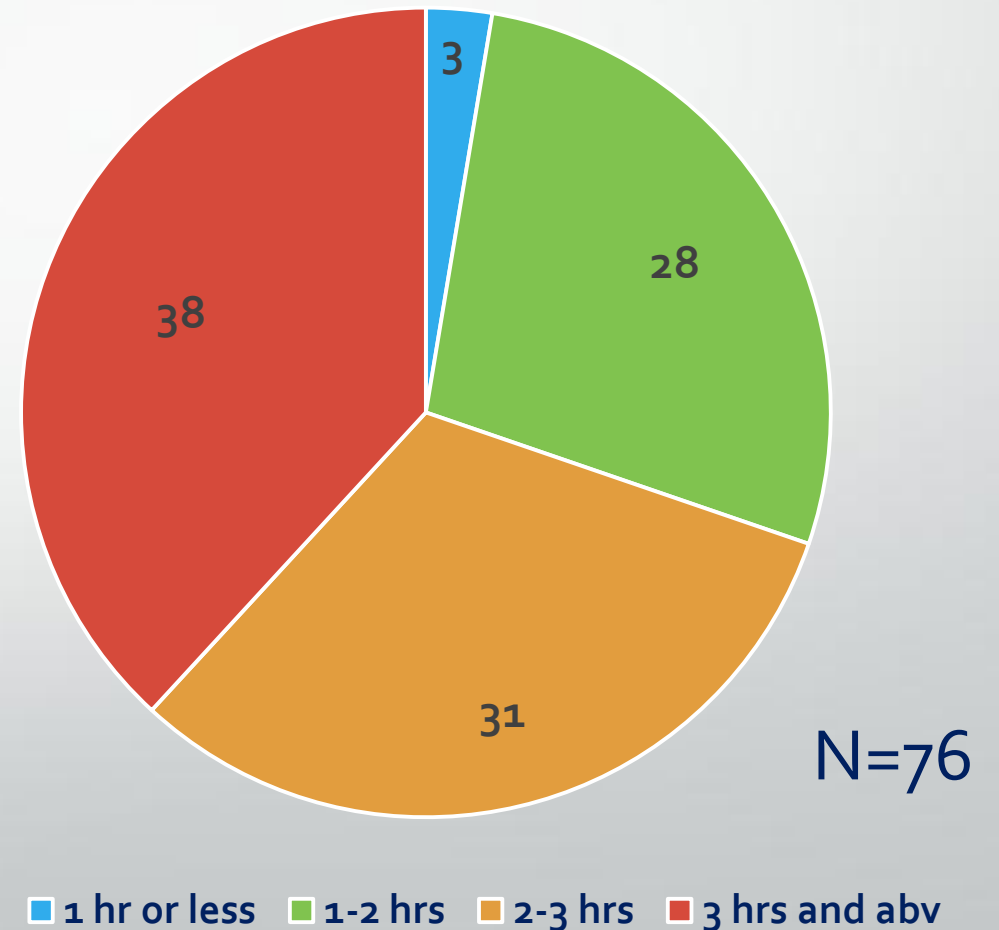
| Waiting time      | Sample size |
|-------------------|-------------|
| Less than 3 Hours | 84          |
| More Than 3 Hours | 33          |
| Total Sample      | 117         |

# RADIOLOGY

## OPD XRAYS REPORT TIMINGS

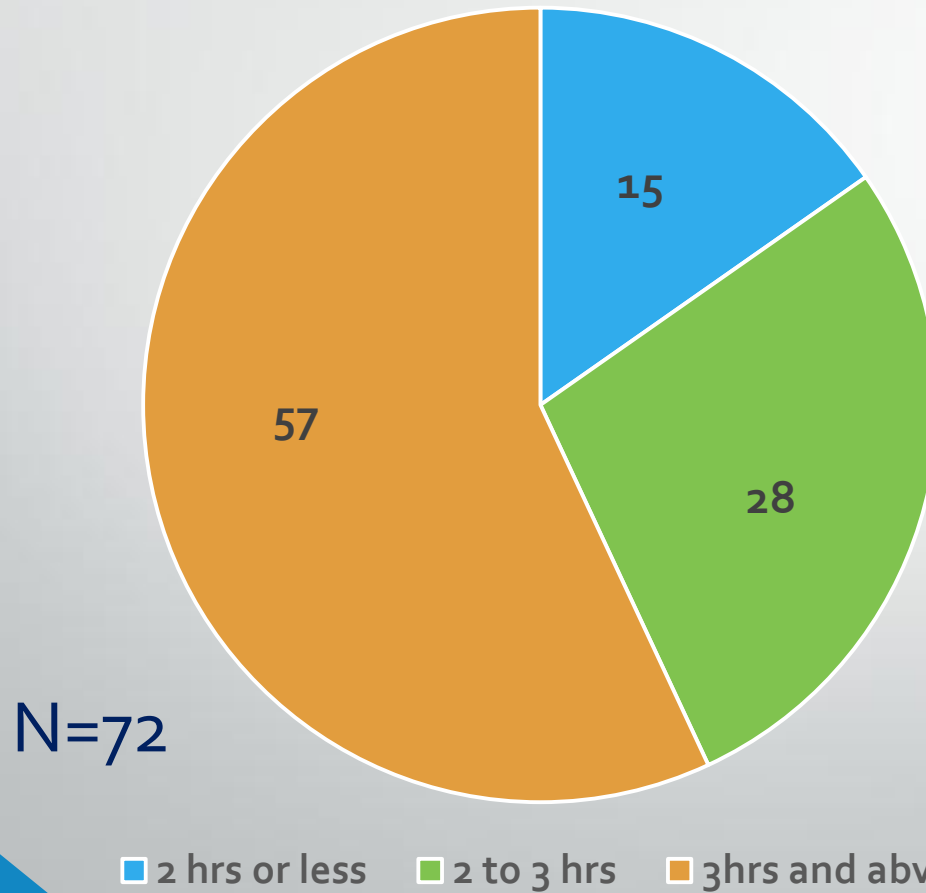


## OPD CT/MRI/USG REPORT TIMINGS

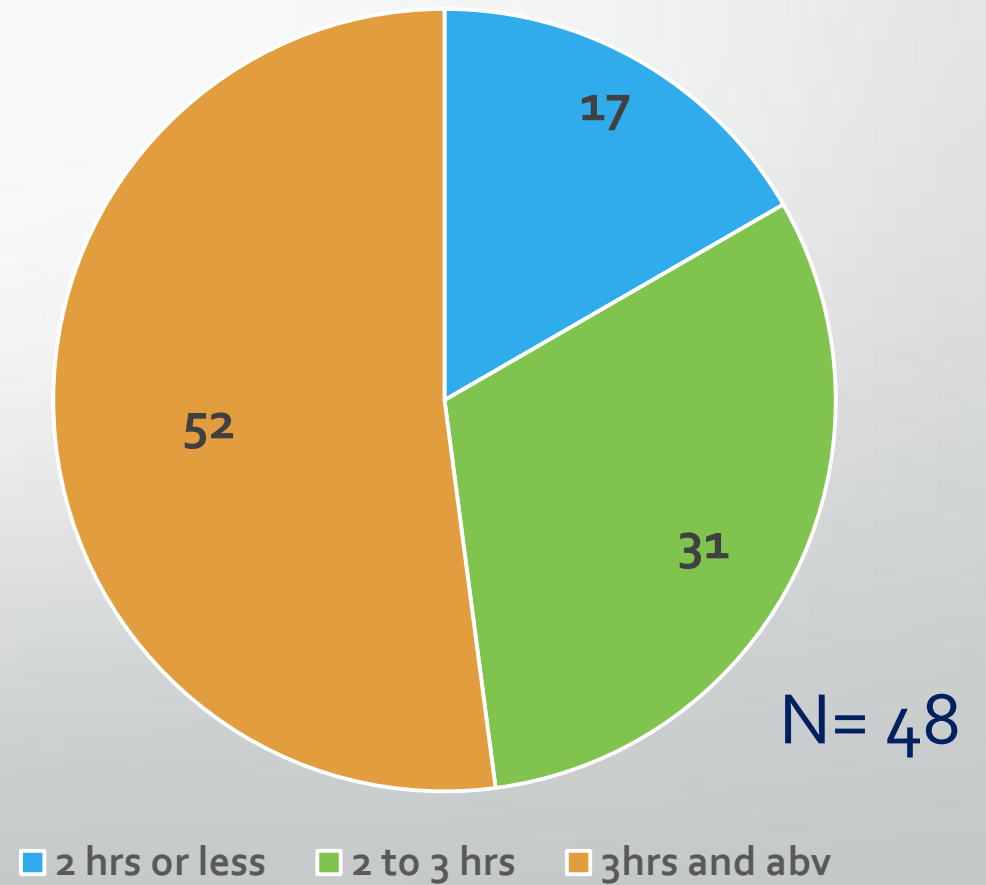


# RADIOLOGY

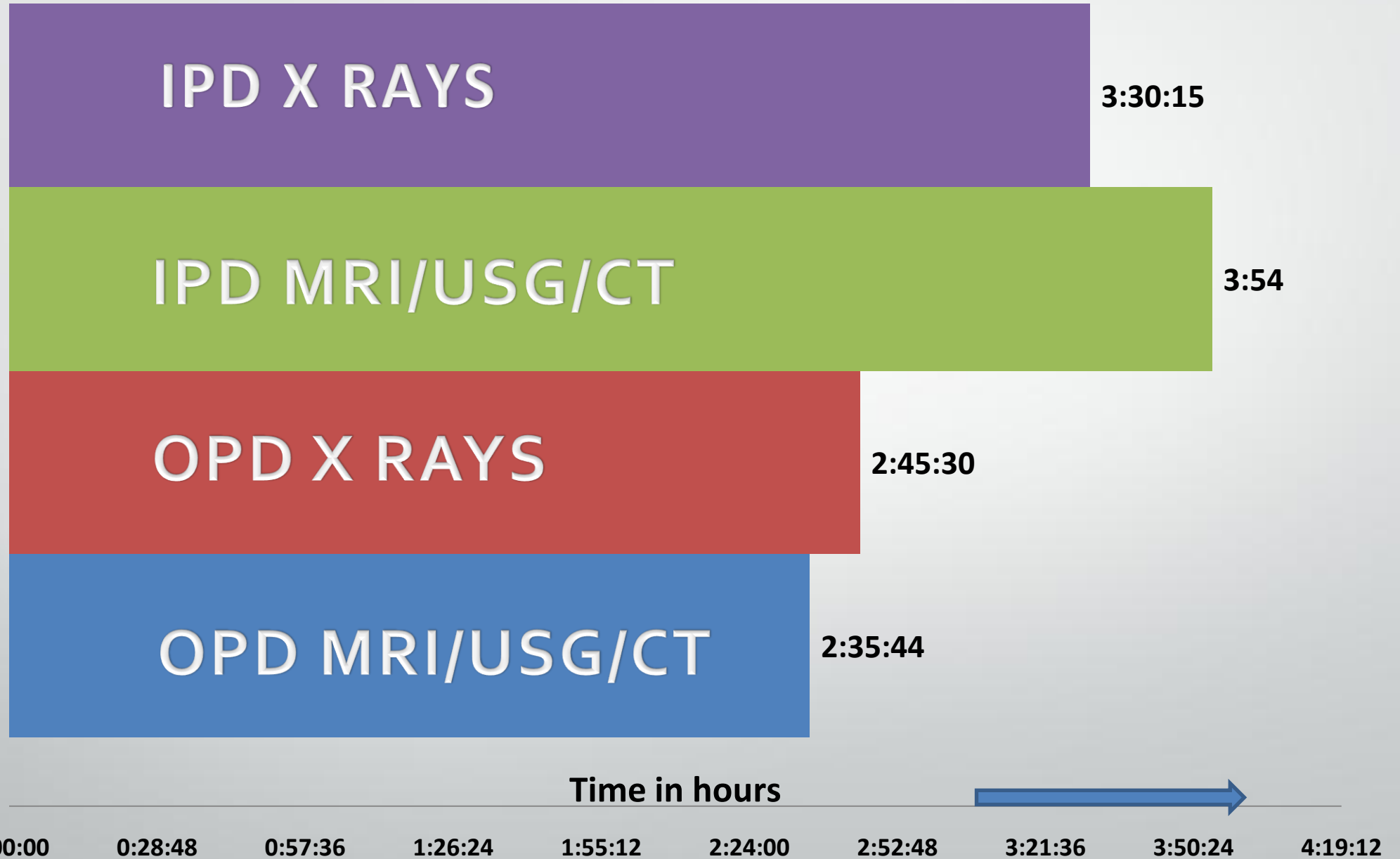
## IPD XRAYS REPORT TIMING

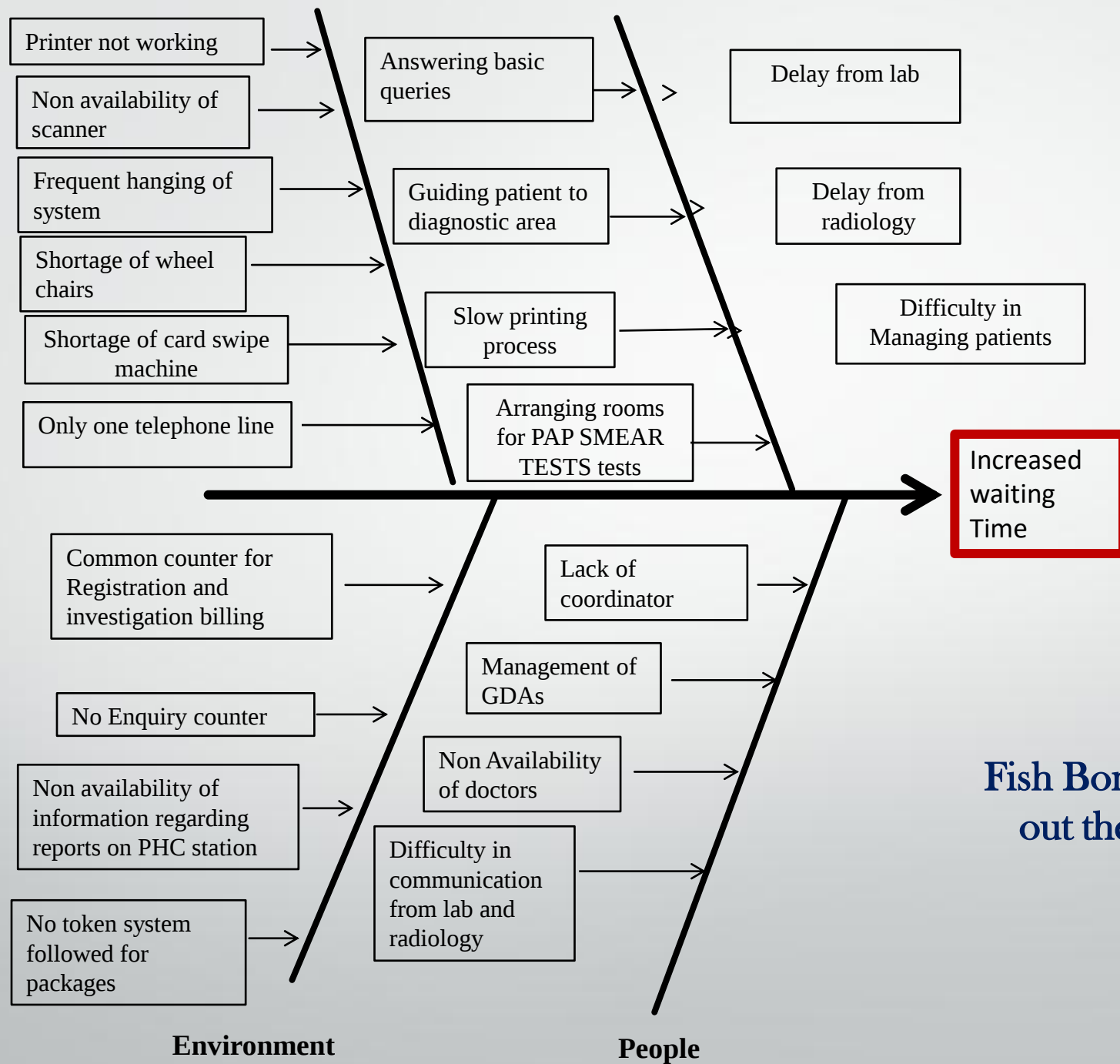


## IPD CT/MRI/USG REPORT TIMING



## Average waiting time in Radiology

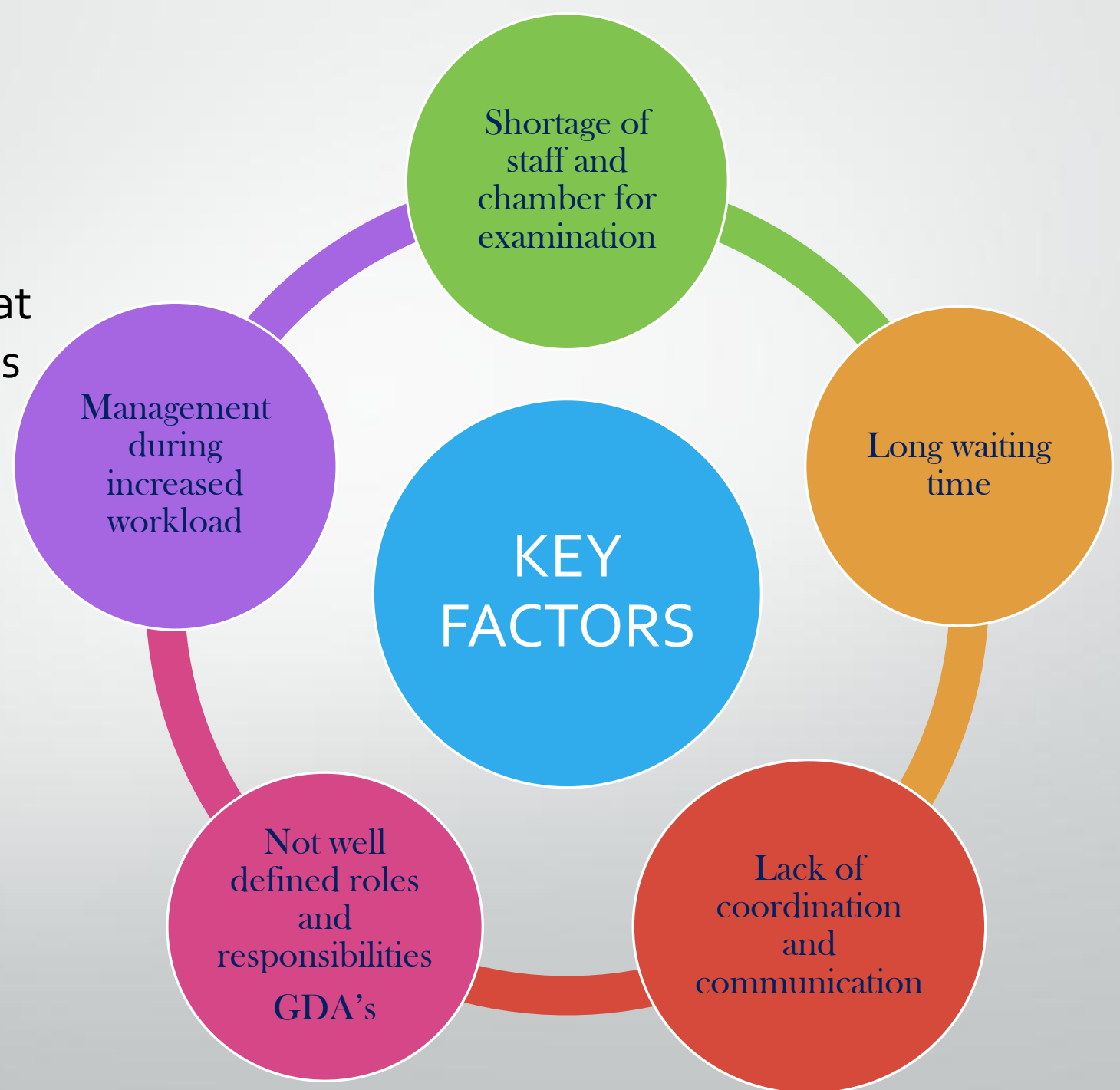




**Fish Bone Diagram to find out the causes of delay**

- The data analysis shows that problems in the process was at following major steps:

- ☐ Waiting time for investigation.
- ☐ Time taken for investigation .
- ☐ Long waiting time for investigation results.





# CAUSES AND PROBABLE SOLUTIONS

| Cause                                                                   | Possible solutions                                                                                                                                                                              |
|-------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Common counter for registration and investigation billing               | <ul style="list-style-type: none"> <li>• Dedicated counter for investigation billing.</li> <li>• Additional counters specially on high foot fall days.</li> </ul>                               |
| Unavailability of Cashier tray at PHC station cause delay in the system | <ul style="list-style-type: none"> <li>• In lieu of managing lose money cashier trays should be provided so as to reduce the wasted time.</li> </ul>                                            |
| Return of balance money(lose money not available)                       | <ul style="list-style-type: none"> <li>• Bulk provision of lose money in denominations of Rs 1, 2 ,5,10 and 50 every morning.</li> <li>• Availability of in lieu items like candies.</li> </ul> |

|                                                                                   |                                                                                                                                                                    |
|-----------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Frequent hanging of the system                                                    | <ul style="list-style-type: none"><li>• Upgrade the system</li></ul>                                                                                               |
| Sharing of card swipe machine with other counters                                 | <ul style="list-style-type: none"><li>• Provide additional machine</li></ul>                                                                                       |
| Frequent enquiry by patients about OPD days, OPD charges and other tests charges. | <ul style="list-style-type: none"><li>• Setting up of separate MAY I HELP YOU desk.</li><li>• Static display of OPD Schedule and the package Charges</li></ul>     |
| Unavailability of separate room for tests like PAP SMEAR and Mammography          | <ul style="list-style-type: none"><li>• Separate area should be allocated for the tests in order to reduce the waiting of the patient for procedure room</li></ul> |



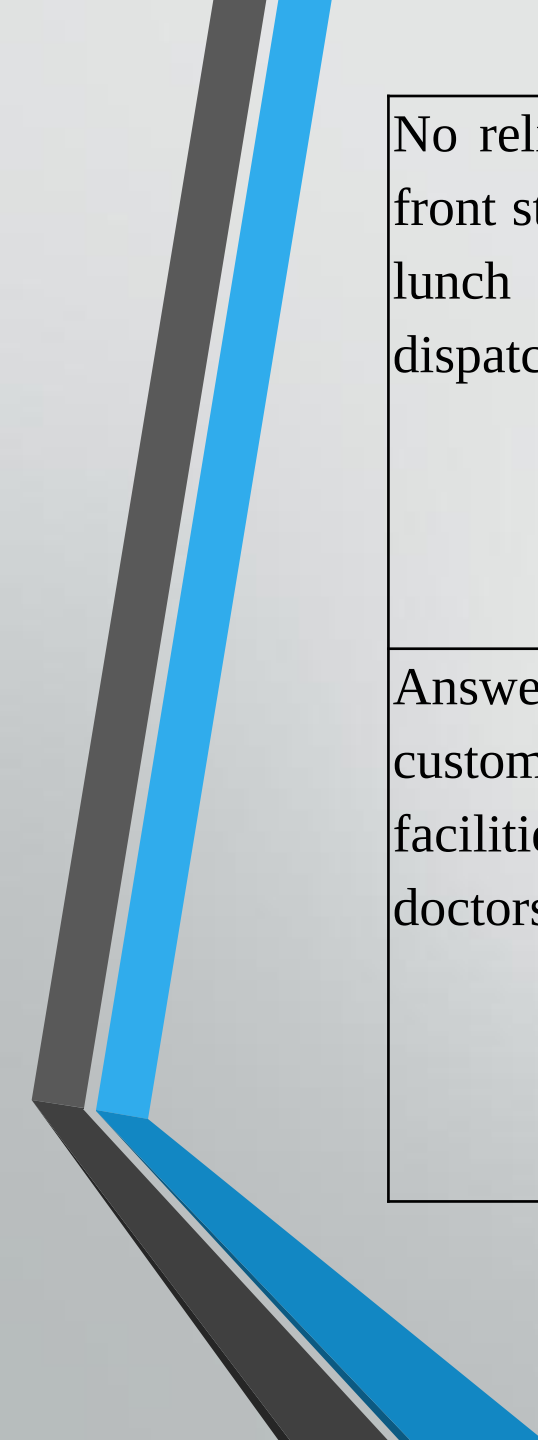
|                                                                                                                           |                                                                                                                                                                                                                                                                                                                                                                         |
|---------------------------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <ul style="list-style-type: none"><li>• Improper communication among the staff regarding the timings of report.</li></ul> | <ul style="list-style-type: none"><li>• One statement should be followed while communicating with the patient, sensitizing staff for the same.</li></ul>                                                                                                                                                                                                                |
| <ul style="list-style-type: none"><li>• Lack of changing area inside XRAY and TMT chambers for females.</li></ul>         | <ul style="list-style-type: none"><li>• Separate areas inside XRAY and TMT should be made so that the time female patients invest in going to the changing room and coming back to diagnostic area can be eliminated and also to reduce embarrassment for the female patients as they have to travel the whole OPD for coming to the scanning area for X ray.</li></ul> |

Wheel Chair Management: The GDA is sent to get wheel from other departments hampering functioning of PHC station.

- Wheel chairs earmarked for OPD could be placed at waiting area. Movement of these can be easily tracked.

No authorized person for delivery of x-rays from scan room to radiology department and back to the PHC counter.

- Time slot with duty Rota's must be formed for GDA'S for collection of X-ray Report on time.



|                                                                                                                                           |                                                                                                                                       |
|-------------------------------------------------------------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------|
| No reliever at the radiology counter when front staff is on leave or unavailable during lunch time delaying process of report dispatching | • For the duration of unavailability handover should be given to the next person sitting on the counter.                              |
| Answering basic queries of outside customers on telephone like types of facilities available, names and schedule of doctors etc.          | • Basic details could be available with the operator who can satisfy the caller. Availability of doctors can be checked from the OPD. |

*Thank you!*

