NH Narayana
Multispeciality Hospital

Unit of Narayana Health

A Dissertation on

# ASSSESMENT OF RADIOLOGY DEPARTMENT USING BALANCE SCORECARD

AT

## NARAYANA MULTISPECIALITY HOSPITAL, JAIPUR

*Under the guidance of*
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&

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**By:**

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# Introduction

- Balance scorecard is a managerial technique to measure the performance of the organisation developed by Robert Kaplan (Harvard Business School) & David Norton (Balance scorecard collaborative) in 1990's.

- The Balance scorecard translates an organisation's mission and strategy into comprehensive set of performance measures that provides the framework for a strategic measurement and management system.

- The scorecard measures organisational performance across four balanced perspectives: Financial, Customers, Internal Business Processes, and Learning and Growth.

# Objectives of the study:

## Broad objective:

To assess the overall existing performance of Radiology Department and to develop initiatives for achieving future competitive success.

## Specific objectives:

- To study the work flow of the Radiology Department and its interdependence with Narayana Multispecialty hospital, Jaipur
- To apply balance score card technique to measure performance of Radiology department across four perspectives viz.
  - Financial
  - Customer
  - Internal Business process
  - Learning and growth

- To identify the areas of improvement and develop recommendation in coordination with the organization, for strengthening and improving the quality of the system.

# Methodology:

- The study is descriptive and exploratory in nature. A comprehensive study has been conducted to measure the performance and perception across the four perspectives of balanced scorecard.

## Study tenure:

The study is carried out in three months (Feb – April).

## Study instruments:

The following tools are used to gather information to get in depth understanding

### Quantitative data:

- Self administered questionnaire for patients
- Questionnaire for employee perspective

### Qualitative data:

- Informal interviews for Internal Business Perspective
- Focused group discussion
- Observation

# Sample Size:

- Customer perspective: 225 patients, who underwent any investigations (X-ray, CT Scan, MRI, USG) as an inpatient or outpatient .

- Employee's perspective: 24 employees of Radiology department were taken according to the designation

| DISTRIBUTION | NO OF EMPLOYEES | NO OF SAMPLES |
|---|---|---|
| Consultants | 4 | 3 |
| Administrator | 2 | 2 |
| Technicians | 11 | 11 |
| Front office staff | 3 | 3 |
| Typist | 3 | 3 |
| CCA | 2 | 2 |
| Total | 25 | 24 |

# Study limitations:

Most of the information related to financial perspective was not available. So on the basis of apportionment the cost was calculated

In customer perspective portable investigations were not taken into sample size. As portable was done mostly for ICU patients and they were not in a position to respond.

Employee productivity calculation was not possible as the organisation did not provide the net profit amount of Radiology

# FINDINGS OF THE STUDY

Financial perspective:

Details of February:

| Particulars | XRAY | CT SCAN | MRI | USG |
|---|---|---|---|---|
| No of procedures | **3853** | **290** | **308** | **1491** |
| No of films used | **3380** | **790** | **1078** | **1400** |
| No of waste films | **134** | | | |
| Total No of procedures | **6782** | | | |

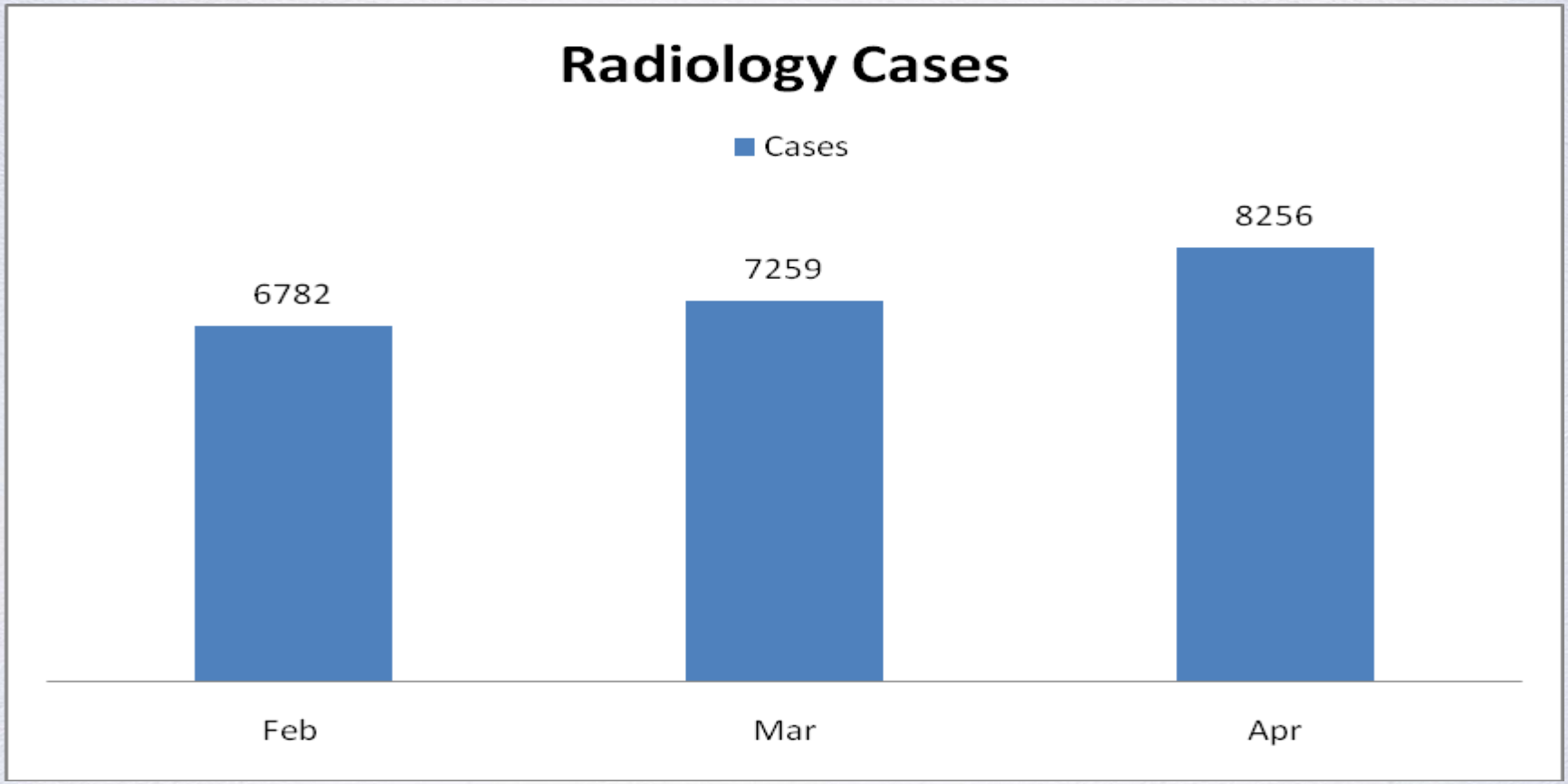
Details of March:

| Particulars | XRAY | CT SCAN | MRI | USG |
|---|---|---|---|---|
| No of procedures | **3395** | **432** | **106** | **1665** |
| No of films used | **3887** | **1250** | **357** | **1625** |
| No of waste films | **140** | | | |
| Total No of procedures | **7259** | | | |

# Details of April:

| Particulars | XRAY | CT SCAN | MRI | USG |
|---|---|---|---|---|
| No of procedures | **4573** | **361** | **301** | **1555** |
| No of films used | **4476** | **1050** | **1037** | **1500** |
| No of waste films | **193** | | | |
| Total No of procedures | **8256** | | | |

# Increase in radiology cases:



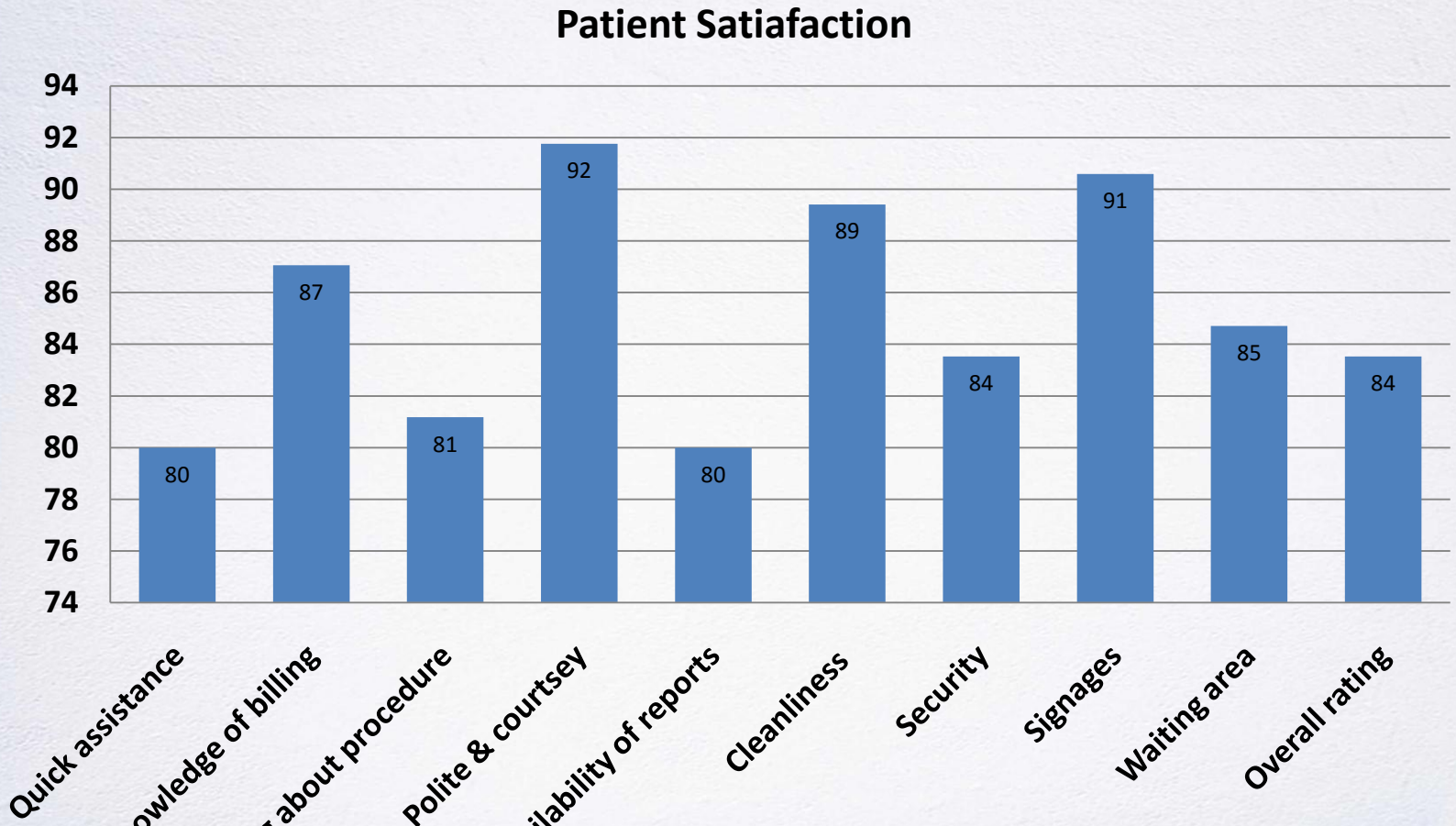

Machine Utilization = 34%

Formula:

Total No of hour used per day* Total No of working days in a month

24*26

# Customer / Patients Perspective



# Internal Business Process Perspective:

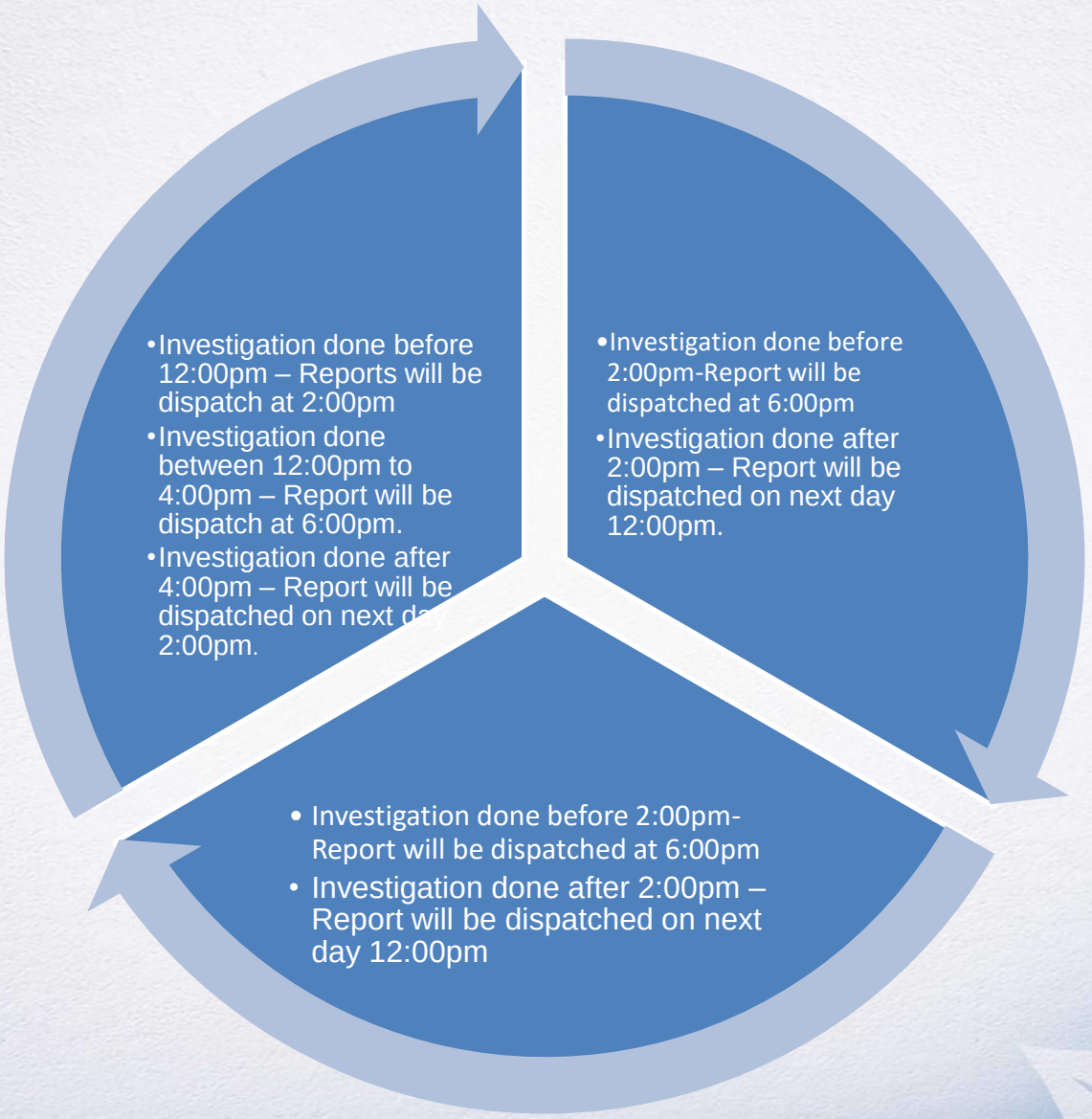
Waiting Time

- At billing counter: 05 minutes
- For procedure :20 minutes
- For collection of Reports : 10 minutes

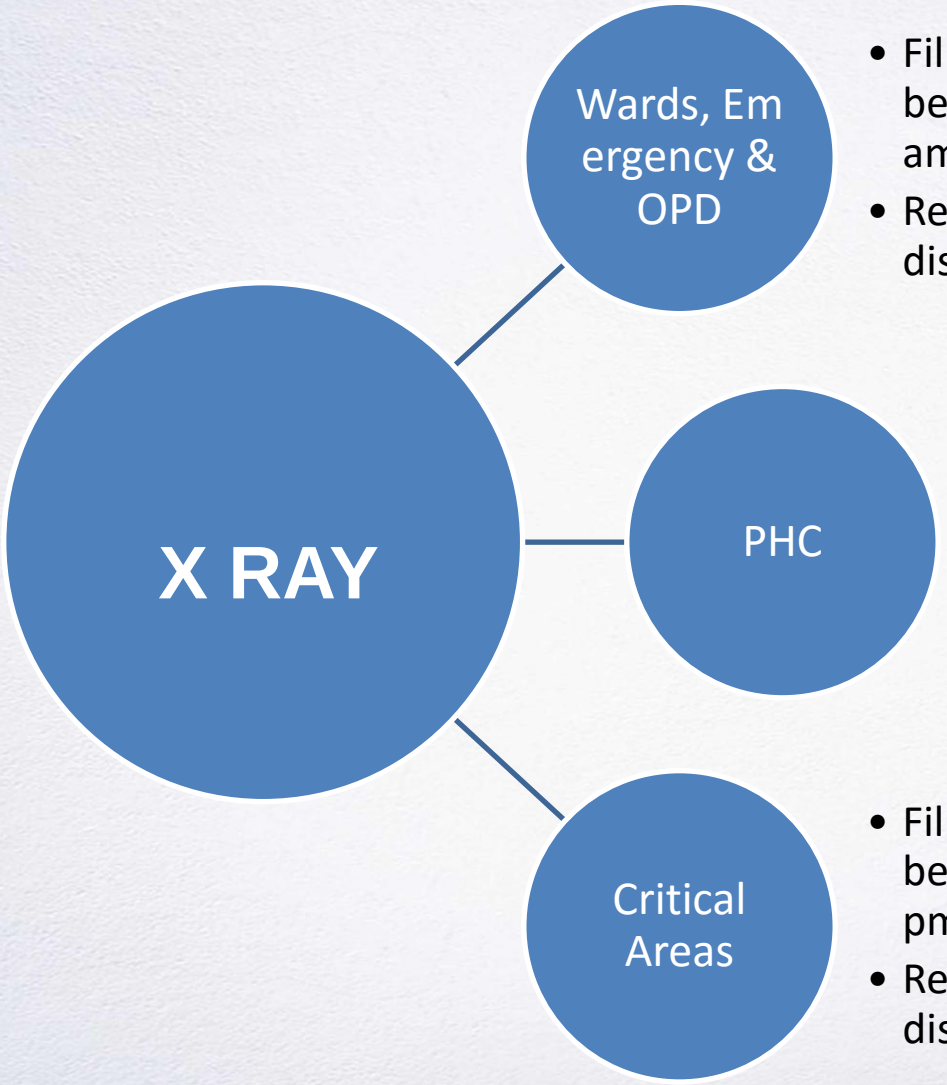
Emergency Reporting TAT: 35 minutes

Critical value reporting time : 05 minutes

# Report within stipulated time



# X Ray




- Films will be collected between 9 am to 10 am
- Reports will be dispatched at 12:00pm

- Films will be brought along with PHC patients
- Within an Hour

- Films will be collected between 11 am to 12 pm
- Report will be dispatched at 2:00pm

# Reasons for long waiting time:

- No proper time scheduling for inpatient and outpatients.
- Due to walk in patient (no appointment) as a result there is long waiting queue.
- Sometimes the patients are not shifted timely from wards and OPD patients are not informed prior to investigation, which results in delays.
- Number of patients is more especially during the peak hours (11am – 2pm), which is also one of the reasons for delay.

# Reasons of process failure in Radiology

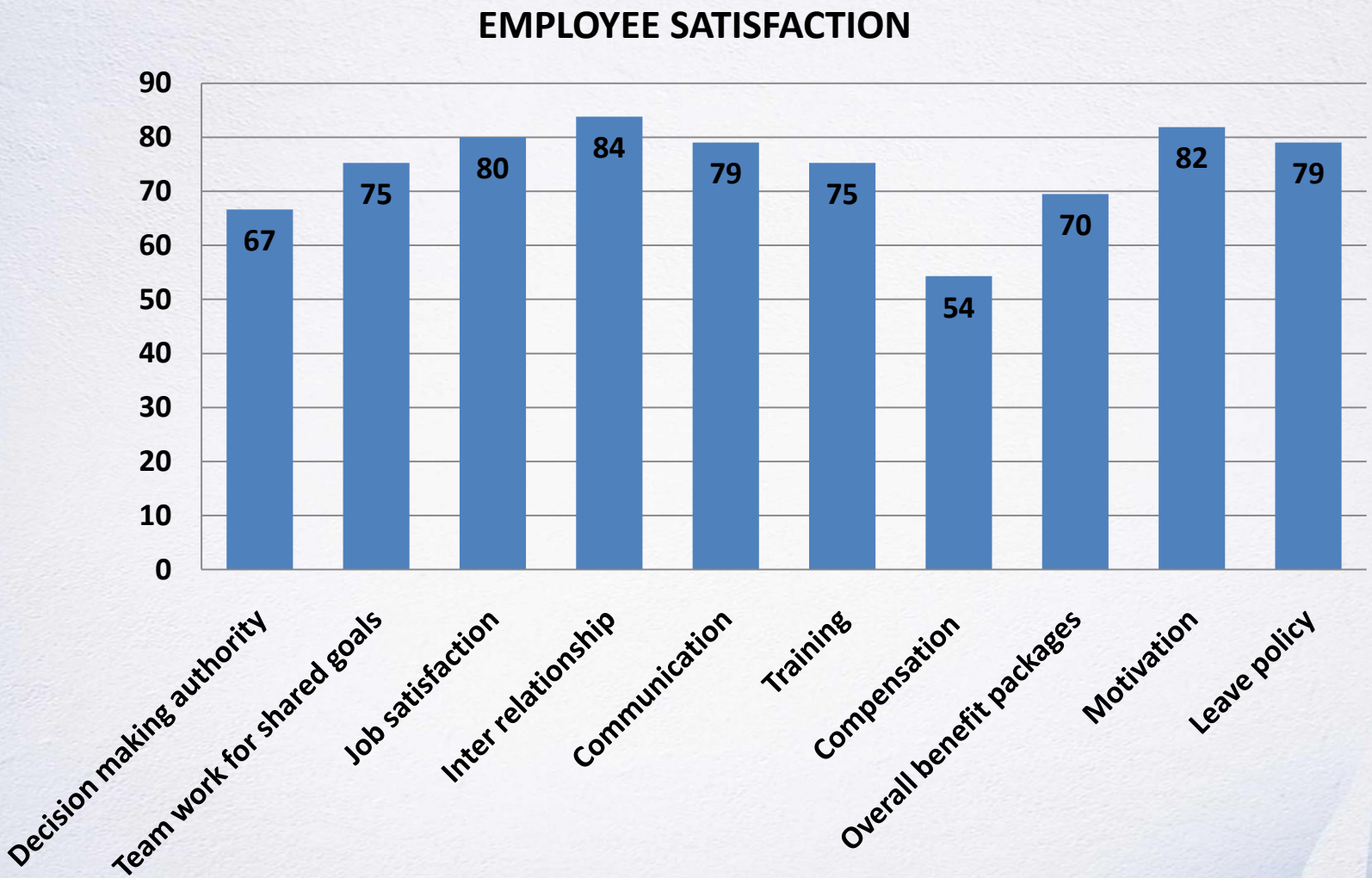
- Reports / films not traceable or are missing
- Long waiting time
- Delay in procedure
- Error in typing
- Ineffective communication
- Exchange of bills and reports.

# LEARNING AND GROWTH PERSPECTIVE:

**The three cores Employee Measurements are:**

- Employee Satisfaction
- Employee Retention
- Employee Productivity
- Employee Re skilling

**Overall Employee Satisfaction = 74%**


EMPLOYEE SATISFACTION
90
80
70
60
50
40
30
20
10
0
67
75
80
84
79
75
54
70
82
79
Decision making authority
Team work for shared goals
Job satisfaction
Inter relationship
Communication
Training
Compensation
Overall benefit packages
Motivation
Leave policy

# EMPLOYEE RETENTION (Feb – March 2016)

Percentage of Employee Turnover:

- No of Employees =25
- No of Turnover of Staff= 0
- Employee Retention= Exclusion *100
- No of Employees
- There was no turnover during this period.

# RE- SKILLING THE EMPLOYEES:

- Only about 75% of employees are satisfied with present training program organised, and 85% of them shown their interest in attending the training programs related to technical skills, leadership, conflict management, computer skills etc.

# Recommendations:

- Provision of PACS server interfacing with HIS will ease the process:
- On line entry of investigation requests and their results/ reports
- Retrieval of information on patient and investigation results
- On time service with no delay in the process flow
- Reduction in clerical work
- Periodic equipment statistics( uptime , down time etc)

# Recommendations ctd…

- Daily/ monthly performance reports
- Improved inventory analysis
- Continuous monitoring
- Proper scheduling and shifting of In patients would reduce the on call charges
- Appointment system for both IPD and OPD patients

# Recommendations ctd…

- Align personal goals for the employees
- Rotation of staff in radiology department
- Broadening of skills by proper training to attain quality output ( both in conducting procedures and communication)
- Improve air quality to reduce breakdown of equipments

# THANK YOU

Narayana Health
Health for all. All for health.

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