

“ROOT CAUSE ANALYSIS ON ERRORS IN PATIENT IDENTIFICATION PROCESS IN A MULTI SPECIALITY HOSPITAL”

By- Shreyansh Tripathi
Roll no 1621 MBA HM19

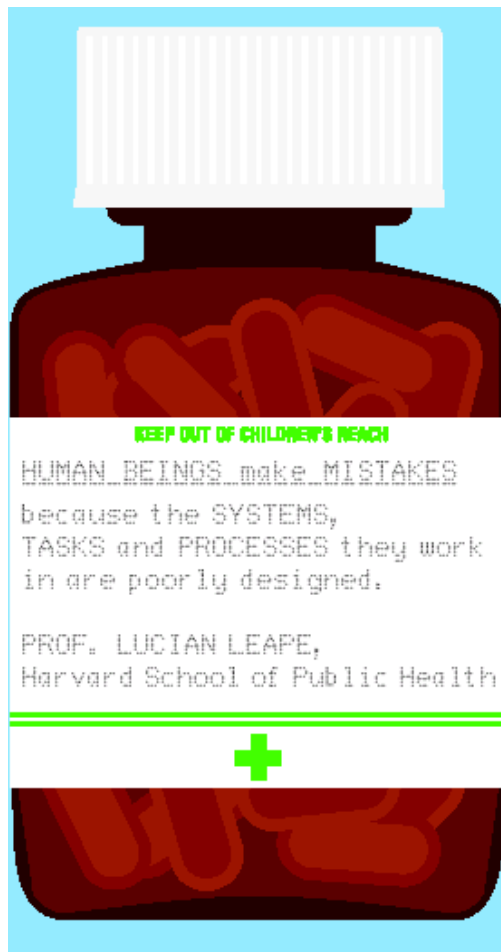
Introduction

- **Root cause analysis (RCA)** is a method of problem solving that tries to identify the root causes of faults or problems.
- A root cause is a cause that once removed from the problem fault sequence, prevents the final undesirable event from recurring.
- RCFA (Root Cause Failure Analysis) recognizes complete prevention of recurrence.
- RCA is an iterative process and a tool of continuous improvement. It is typically used as a reactive method of identifying event(s) causes, revealing problems and solving them that can be used to *forecast* probable events even *before* they occur.

Methodology

- **Study setting:** Shree Siddhi Vinayak Hospital, Bhilwara (Rajasthan)
- **Study type:** Cross-sectional analytical study
- **Study Duration:** 10th February to 30th April 2016.
- A Cross- sectional study was performed over a period of 3 months.
- **Primary data** was collected; Methods of data collection were direct observation and department wise semi-structured interviews.
- **Secondary data** was collected from hospital records, files, National International journals

Human Error is Inevitable



- Two approaches to the problem of human fallibility exist: the person and the system approaches
- The person approach focuses on the errors of individuals, blaming them for forgetfulness, inattention, or moral weakness
- The system approach concentrates on the conditions under which individuals work and tries to avert errors or mitigate their effects

Two Views On Human Error

Old View

- ❑ Human error is a cause of accidents
- ❑ To explain failure, you must seek human failure
- ❑ Find people's incorrect assessments, wrong decisions, bad judgments
- ❑ Get rid of 'bad apples' replace with new personnel

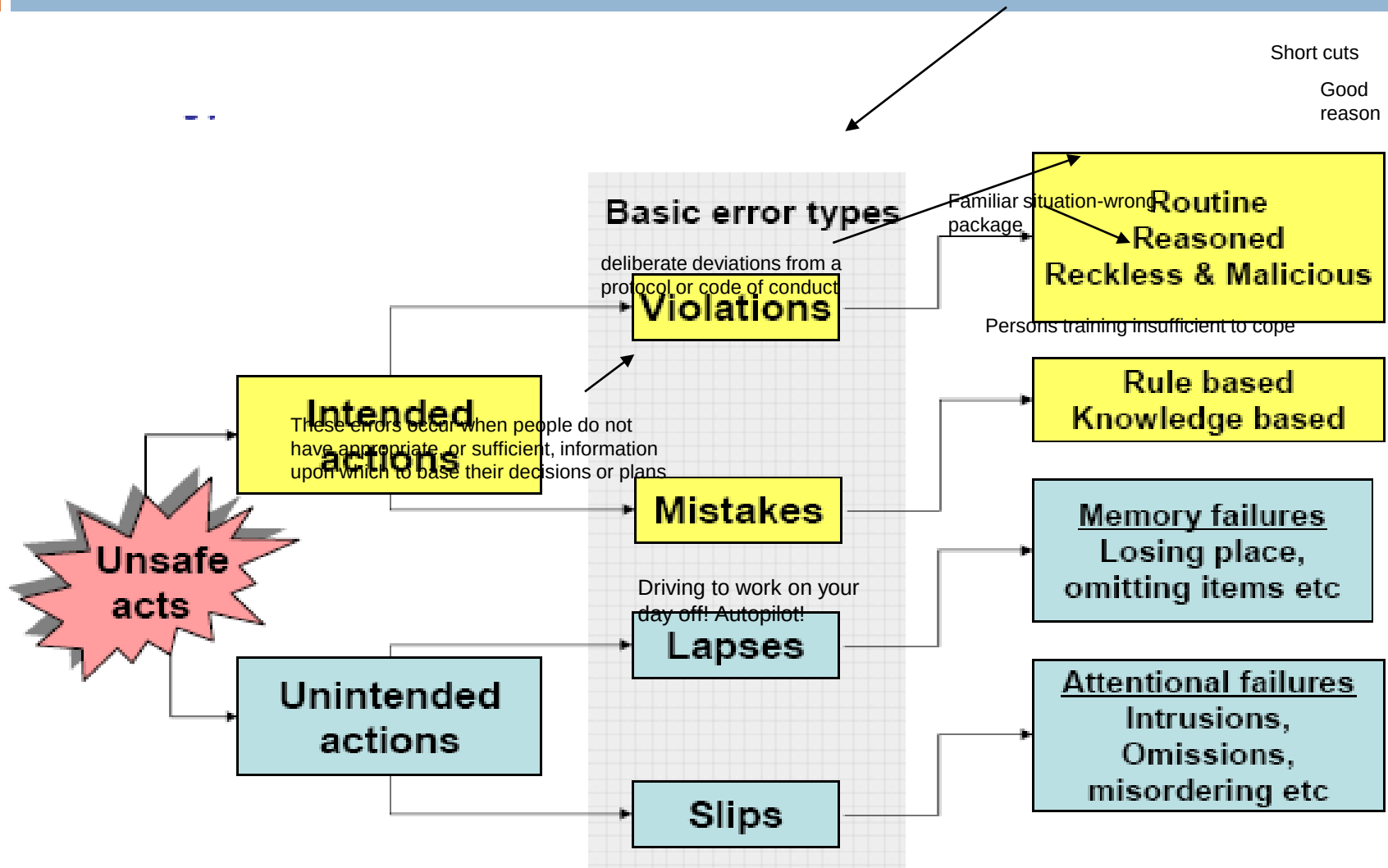
New View

- Error is a symptom of deeper trouble
- To explain failure, look for the system failure
- Explore how actions and assessments made sense at time
- Replacing people leaves problems in place

Types of Errors:

Violations involve deliberate deviations from some regulated code of practice or procedure, Reason (1993). They occur because people

intentionally break the rules.



■ Problems:

- Inattention
- Memory lapse
- Failure to communicate
- Poorly designed equipment
- Exhaustion
- Ignorance
- Noisy working conditions
- A number of other personal and environmental factors

Step 1- Systems approach



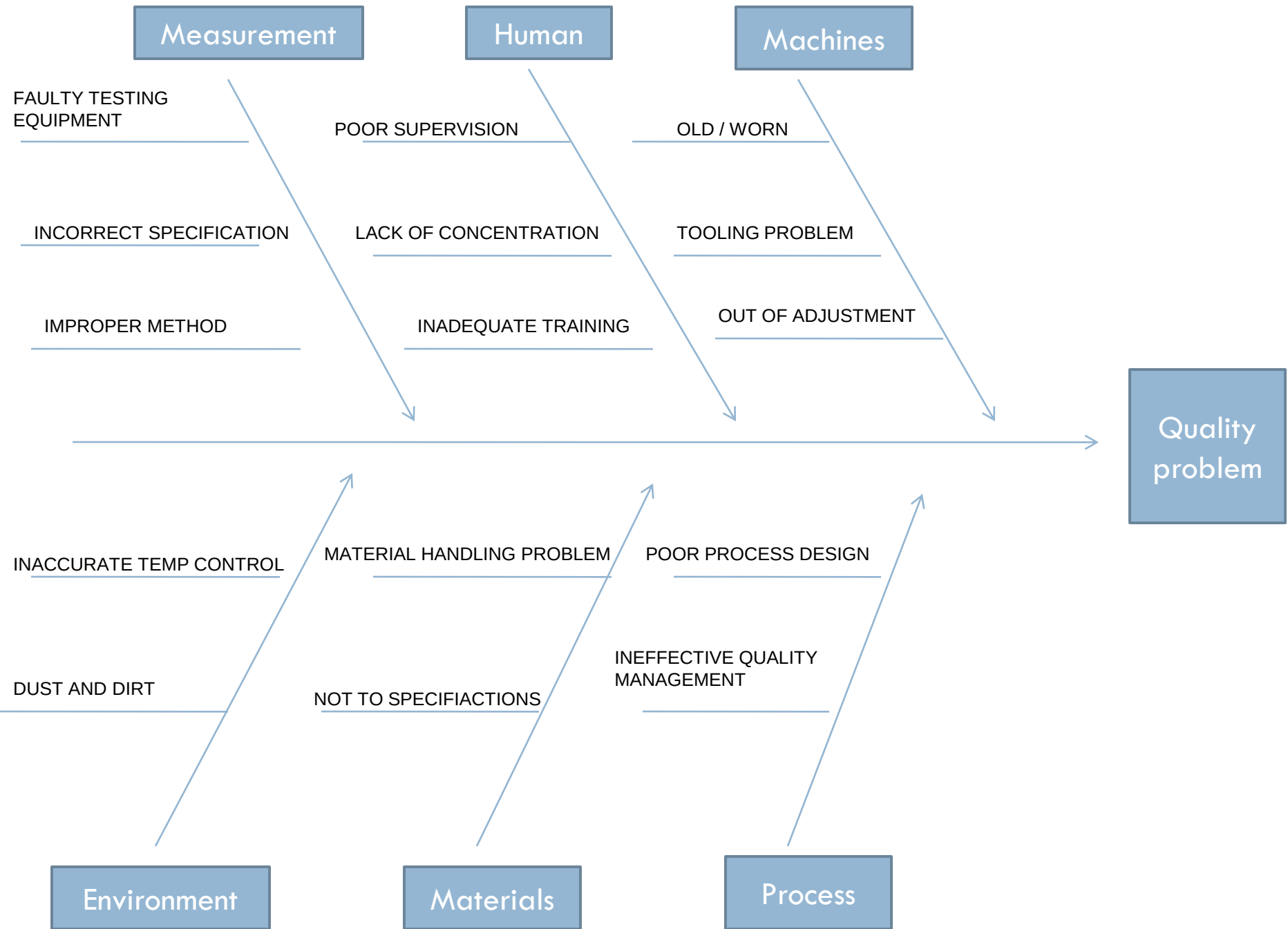
- “The systems approach is not about changing the human condition but rather the conditions under which humans work”.

J. T Reason, 2001

RCA - Gathering the information

- ☐ **Incident report**
- ☐ **Health records**
- ☐ **Policies**
- ☐ **Equipment & maintenance records**
- ☐ **Audit data**
- **Photographs**
- **Staff rotas**
- **Risk assessments**
- **Training records**
- **Witness accounts**
- **Interviews**

FISH BONE DIAGRAM



RCA : Helpful tools

Timeline:

Tracks chronological chain of events.

Allows the team to identify information gaps as well as problems in the process of care delivery.

Time person grid:

Maps /tracks the movements of people involved before, during and after incident.

Flowchart:

Depicts events sequence in simple, easy to read format.

Step 2- Establish causality

- Analysis focuses on systems and processes and the way individuals interact with them.
- Analysis repeatedly digs deeper by asking “why” questions until no additional logical answer can be identified
- Analysis identifies changes that could be made in systems and processes to reduce the risk of a similar event occurring

FMEA(Failure Modes and Effects analysis)

- Failure Modes and Effects analysis(FMEA) is a systematic, proactive method for evaluating a process to identify where and how it might fail , and to assess the relative impact of different failures in order to identify the parts of the process that are most in need of change.
- Failure mode effect analysis(FMEA)may be defined as a “systematic method of identifying and preventing process and product problem before they occur.
- The objective of the FMEA is to look for all ways a process or product can fail.

Overview of the Process:

- ❑ Failure modes (what could go wrong)?
- ❑ Failure causes(why would the failure happens)?
- ❑ Failure effects(what would be the consequences of each failure)?

DATA ANALYSIS: (Source :www.everyspec.com/MIL-STD/MIL-STD-0800-0899/MIL-STD-882E_41682/)

- Data Analysis was done by direct observation and various issues(root causes) department wise were identified:
- On the basis of lickert scale the scores were given for severity , occurrence and detectability given on a scale of 1-5
- 1=insignificant error
- 2=minor error
- 3=moderate error
- 4=major error
- 5=significant error

RPN (Risk Priority Number):

- Rate the severity of each effect of failure.
- Rate the likelihood of occurrence for each cause of failure.
- Rate the likelihood of prior detection for each cause of failure (ie the likelihood of detecting the problem before it reaches the end user or consumer)

$$\text{RPN} = \text{Severity} * \text{Occurrence} * \text{Detectability}$$

Severity= A degree of something undesirable.

Occurrence= The frequency of something happening.

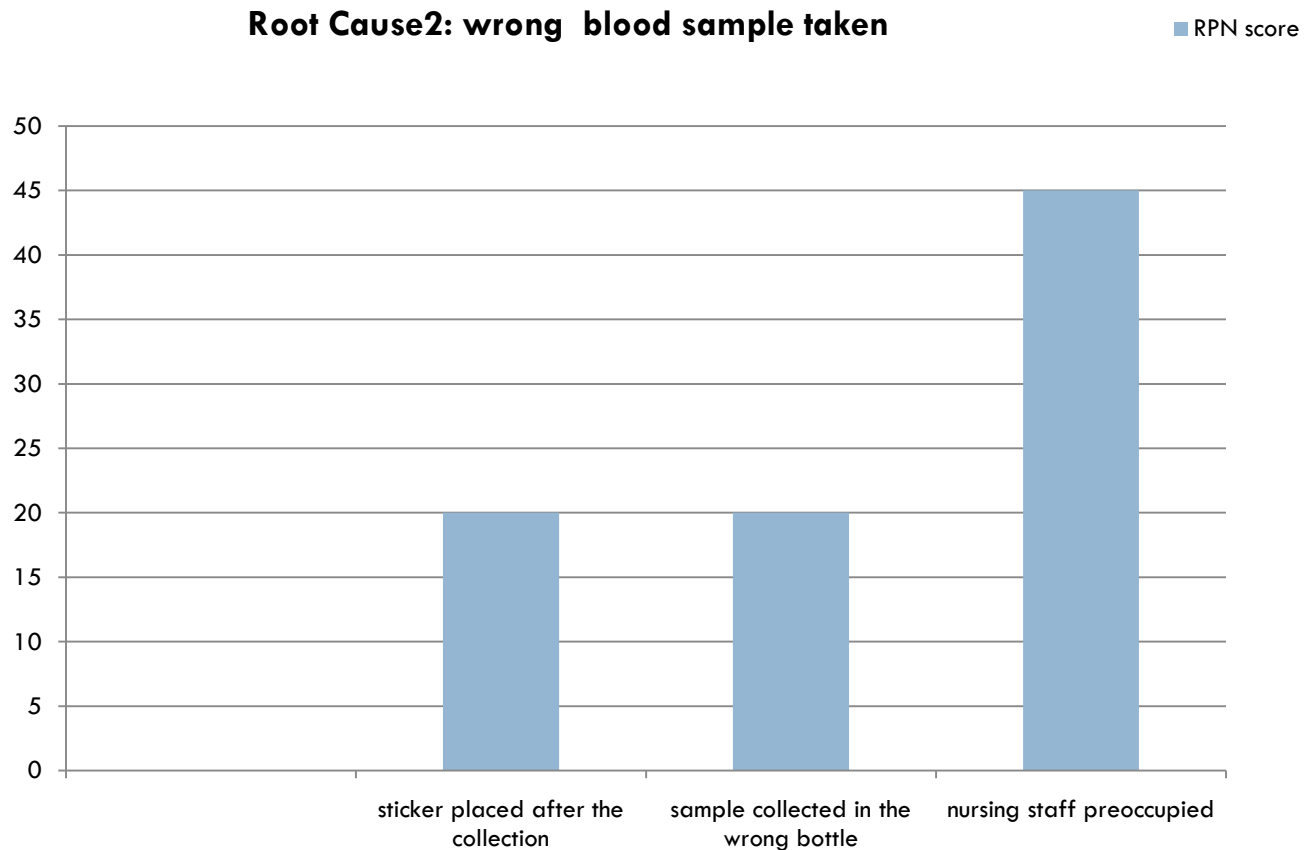
Detectability= To discover in the performance or act.

- The RPN can then be used to compare issues within the analysis and to prioritize Problems for corrective action.

Root cause1: Wrong blood sample taken

RPN score (s*o*d)

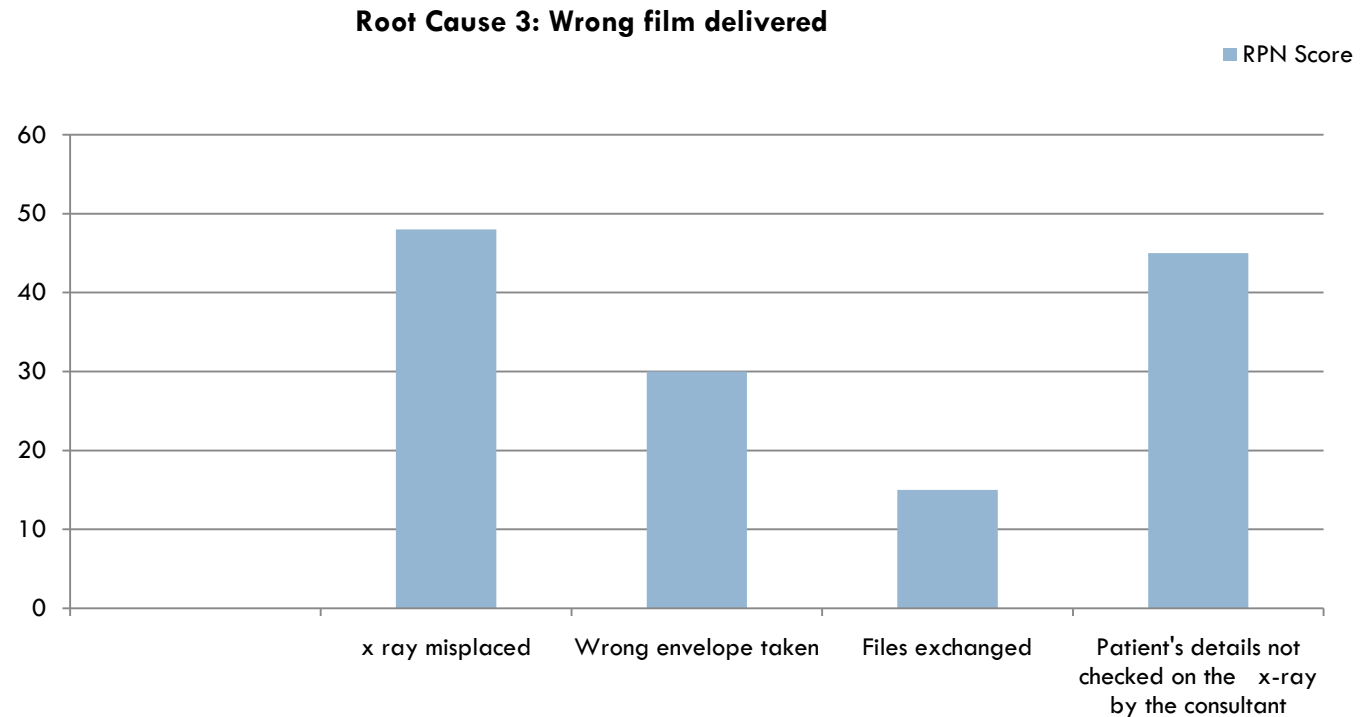
- sticker placed after the collection = 20 ($5 \times 2 \times 2$)
- sample collected in the wrong bottle = 20 ($5 \times 2 \times 2$)
- nursing staff preoccupied = 45 ($5 \times 3 \times 3$)



Root cause 2:wrong x ray film delivered

RPN score (s*o*d)

- x ray misplaced =48(4*4*3)
- Wrong envelope taken =30(5*2*3)
- Files exchanged =15(5*1*3)
- Patient's details not checked on the x-ray by the consultant =45(5*3*3)

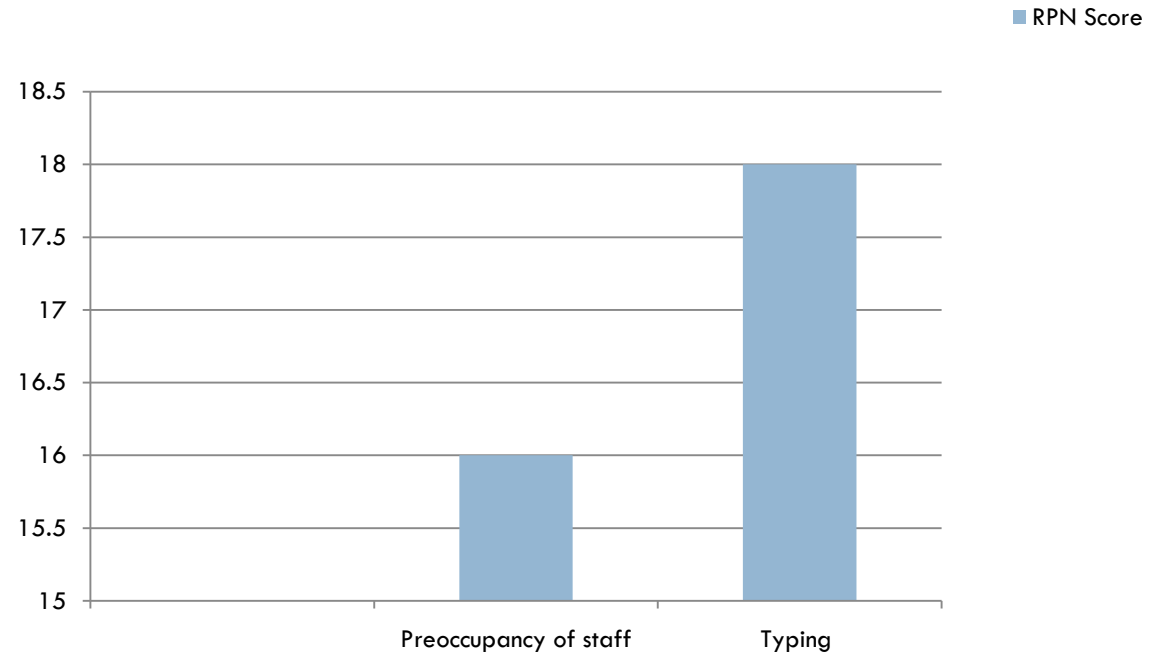


Root cause 3: Ip Sticker with wrong details

RPN score (s*o*d)

- Preoccupancy of staff= 16 ($4*2*2$)
- Typing mistake= 18 ($3*3*2$)

Root Cause1: IP Sticker with wrong details



RESULTS:

- **Wrong blood sample taken since the sticker were placed after the collection ,sample collected in the wrong bottle as nursing staff was preoccupied**
- **Due to preoccupancy of the staff wrong stickers were placed in patient's file as a result X rays got misplaced and exchanged.**
- **The housekeeping staff was involved in dispatch and receipt of films rather than the radiology staff that leads to errors in correct patient identification.**
- **IP stickers were issued with wrong details, wrong discharge slips were issued as a result wrong medications were offered to the patients.**

RECOMMENDATIONS:

- **Major errors like Patient's name ID band must be checked before the administration of drugs.**
- **IP sticker must be placed on the vile before the collection of the blood sample.**
- **Nursing staff must be regularly updated and educated about the importance of patient identification.**
- **Surprise audits must be conducted in order to check the method of patient identification.**



THANK YOU