BUSINESS PROCESS ANALYSIS OF MRI DEPARTMENT

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WHAT IS BPA

- A three-fold method of gathering information--
- describes the “as is” (current) process; defines the “should be” process, and models the “can be” process
- BPR enables “reengineering” of processes to manage change and promote effective teamwork.
- Enables continuous improvement

- Not just process mapping

- Usually confused with procedures

Definition

- A business process that describes the day-to-day activities and job duties an employee performs. (Job duties = processes)
- A business process is a picture of workflow/processflow with a beginning, middle and end.

OBJECTIVES OF BPR

- To deliver high standards of service
- To reduce duplication of effort
- Encourage development of harmonised more streamlined procedures
- Clarify roles and responsibilities
  - clearer division of labour between parts of the department

- Elimination of activities that do not add value;
- Simplification of tasks and activities;
- Integration of jobs or job groups;
- Automation of task and activities (technology).

QUESTION-DO WE NEED TO USE BPR ?

How well does the process work?

Are there redundant steps that don’t add value?

Are better results needed?

Can the same or better results be achieved through change or modification?

What are the overall goals of redefining the process?

Decrease work	Better efficiency
Decrease cost	Manage and promote change
Effectiveness	

- This study was conducted in MRI department of P.D. Hinduja hospital & MRC,Mumbai.

- Sample subjects: Patients, desk staff, staff nurses, radiologists, technicians

- Observations made on 150 patients-two times (firstly for investigation and secondly for evaluation.)

Key findings

Table 1:Quantitive results of MRI scan

Parameter	*GA cases*	*Non-cases*
Average MRI scan time	*46 minutes*	*51 minutes*
Average TAT	*193 minutes*	*104 minutes*
Average preparation time	*41 minutes*	*IPD- 13 OPD- 35 minutes*
Average recovery time	*49 minutes*	
Average idle time	*12 minutes*	*8 minutes*
Average waiting time	*116 minutes*	*80 minutes*

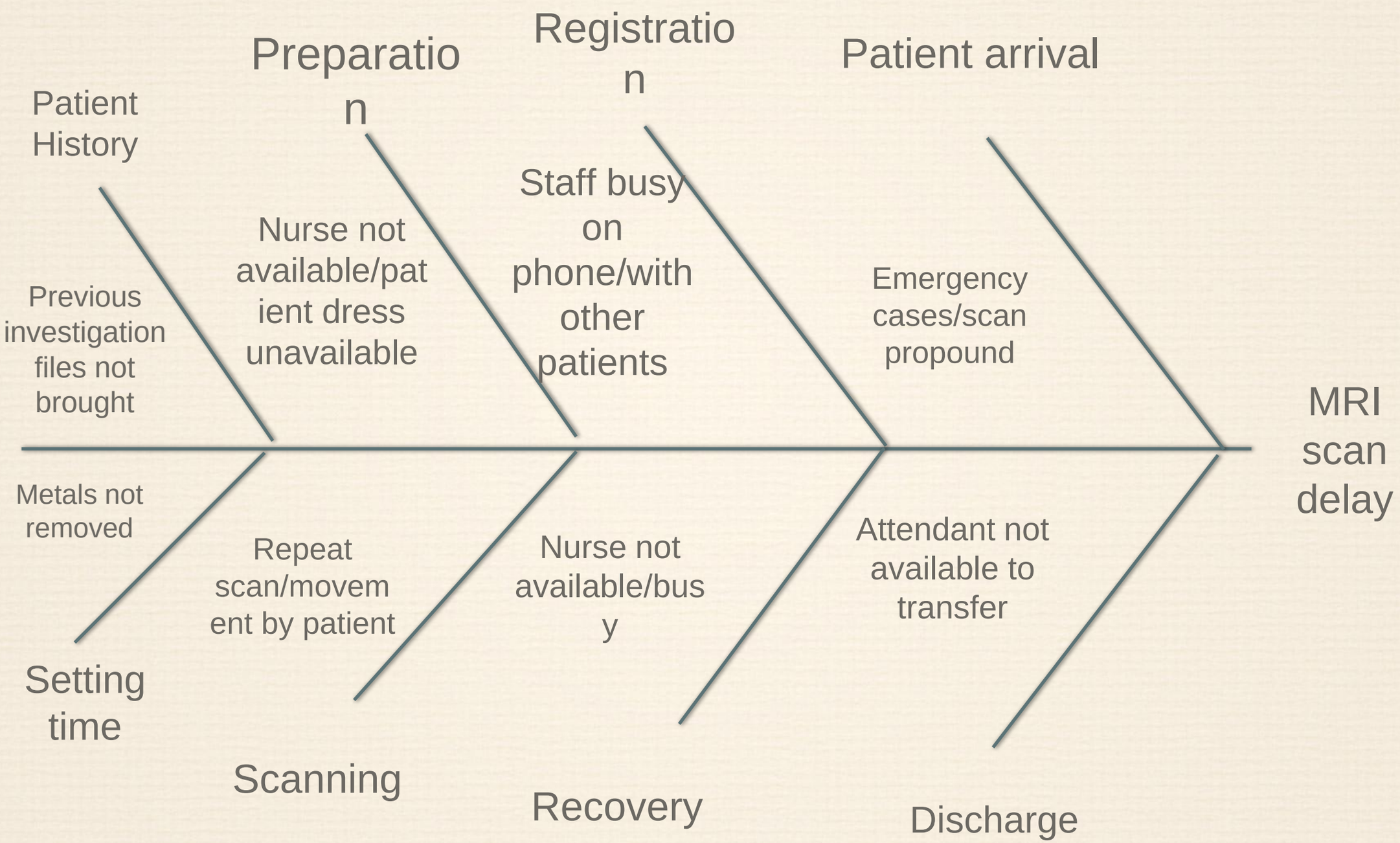
Cont…

Average no of examination per day	31 hours
Average working hours per week	96 hours
Average access time(time duration between appointment request and allotment	
% IPD cases	***16%***
% OPD cases	***84%***
% walk in appointment	***7.6%***
Utilization rate(average 31 cases out of 40 planned cases)	***77.5%***

Causes of delay in process

- Patient arrival
- Interaction at registration desk
- Changing room
- Preparation
- Patient history
- Setting time
- Scanning
- IV removal/recovery
- Exit

Comparative study for GA cases



Problem	Before implementation	Solution	After implementation
Patient coming late	24% patients	called 15 minutes before appointment time	
Longer time for registration	Average time duration for registration was 14 minutes	Clubbing together of forms	overall registration time decreased by 51.2% in GA cases and by 40% in non-GA cases
Delay in changing into the patient dress	Less information to the patients. Very few dresses kept in changing room	All patient dresses kept in changing room signboards directing patients displayed	TAT for non GA decreased by 5.67%
Preparing the patient for MRI	GA patients whose turn is later had to wait over long	Calling 2 GA patients at 8.30,next 2 at 9.30 and rest at 10.15	TAT for GA patients decreased by 16.58% and waiting time also decreased by 16.37%
Patient history	No fixed order for few incidences,this caused delay	No suggestions	
setting the patient on patient table	Average time taken is 4 minutes	To avoid delay due to not following instruction, poster for metal removal placed in changing room	Overall preparation time decreased by 51.2% in case of GA , in case of non-GA by 40%
Scan time exceeding by 45 minutes	Average duration was 50 minutes	Slots increased to 41 pushing efficient & faster processing	Examination time almost same

RACI analysis

The RACI analysis carried out for the actors involved in the process .

For the analysis, the functions or roles were evaluated across the RACI (responsible, accountable, consulted and informed) parameter for each actor and the frequency of the parameters were cumulated

- ✦workload can be redistributed and load be less for technician & nurse (during GA cases)
- for technician , consulting and informed tasks can be reduced
- ✦for nurse , informed tasks can be reduced
- ✦similarly , receptionist was loaded with the responsible category tasks

Recommendation action plan

Yet to be discussed	
To be implemented soon	
On hold	
Implemented	

STATUS	SOLUTION	PROBLEM
	STACKS LABELLED ALL PATIENT DRESSES KEPT IN CHANGING ROOM	PATIENT DRESSES NOT AVAILABLE FOR SEVERAL PATIENTS AS ONE PIECE KEPT AT A TIME
	3 ADDITIONAL SIGNBOARDS DISPLAYED	DIRECTIVE COMMUNICATION FOR PATIENT IS MISSING IN CHANGING ROOM
	POSTER TO INFORM PATIENTS REMOVAL OF METALLIC THINGS	PATIENTS MAY NOT BE CLEAR ABOUT REMOVAL OF ALL METALLIC ITEMS
	NOTICE FOR REPORT COLLECTION INFORMATION	MANY ENQUIRIES ABOUT REPORT COLLECTION
	THREE FORMS IN TOTAL CLUBBED TOGETHER (CONSENT FORM , SCAN REQUEST FORM & MRI CHECKLIST) AS DIFFERENT SETS	DELAY IN ARRANGING AND SENDING CONSENT AND REQUEST (PATIENT HISTORY) FORMS
	2 patients called at 8.30am,next 2 at 9.30 am rest all at 10.30am	ALL GA PATIENTS ARRIVED AT 8:30 AM
	CALLING PATIENT 15 MINUTES BEFORE THE ALLOTTED TIME	SOME PATIENTS GET DELAYED IN ARRIVING - CURRENTLY PATIENTS CALLED 15 MINUTES BEFORE THE ALLOTTED TIME
	ON THE CHECKLIST , TO BE MENTIONED WHO IS INFORMED ABOUT THE PATIENT NEXT IN TURN	COMMUNICATION NEEDS TO BE MORE EFFICIENT BETWEEN TECHNICIAN , DOCTOR AND FRONT DESK STAFF

	FEEDBACK FORM TO BE CREATED FOR RADIOLOGY DEPARTMENT (AS ALREADY USED IN HEALTH CHECK AND OPD)	FEEDBACK FORMS FOR ANY COMPLAINTS AND COMPLIMENTS FROM PATIENTS
	JOB ENHANCEMENT - TASK OF PATIENT BEING SET ON PATIENT TABLE DONE BY ATTENDANT	TECHNICIAN BEING INVOLVED IN PATIENT CARE - LEADS TO ADDITIONAL DELAYS
	SOPs FOR ALL STAFF BE DISPLAYED ON NOTICE BOARD INSIDE CONSOLE ROOM (FOR THEIR OWN REFERENCE)	CLEAR DESCRIPTION OF WORK CAN HELP STAFF BE ORGANISED
	BROCHURES TO BE GIVEN AT THE TIME OF APPOINTMENT	NEED OF MAKING PATIENT MORE INFORMATIVE
	MOTIVATING REWARDS AND PROFESSIONALISM ENHANCING LEARNING SESSIONS FOR STAFF	COORDINATION BETWEEN THE STAFF HOLDS POSSIBILITY OF IMPROVEMENT AND OCCASIONAL FRICTIONS CAN BE AVOIDED
	STANDARDISED DURATION OF WAITING , ACCESS TIME SAY NOT MORE THAN 30 MINUTES , 2 DAYS RESPECTIVELY	FOR SOME PATIENTS VERY LONG WAITING TIME (SPECIALLY WALK IN WITHOUT ANY REFERENCE)
	ALL SCHEDULING BEING DONE BY SINGLE PERSON	CERTAIN TIMES SCHEDULING ITSELF IS NOT PROPER DUE TO MIS COMMUNICATION (OPDs HANDLED AT REGISTRATION & IPDs HANDLED BY TECHNICIANS DIRECTLY)

	PREFERENCE BASED ON URGENCY OF THE CONDITION AND NEED OF THE PATIENT	CERTAIN PATIENTS NEED APPOINTMENT URGENTLY
	AUDIO - VISUAL TO BE SCREENED IN THE WAITING AREA ALL THE INFORMATION CONTENT IN BROCHURE AND DEMO VIDEOS BE UPLOADED ON WEBSITE	PATIENT NEEDS TO BE MENTALLY WELL PREPARED - TO INCREASE THE POSSIBILITY OF COOPERATION DURING MRI SCAN
	USE OF RFID SYSTEM AND OTHER TECHNOLOGICAL SUPPORT FOR TRACKING INVENTORY (LINEN , DRUGS AND OTHER MEDICAL SUPPLIES) AND STAFF	REAL TIME COMMUNICATION AMONG STAFF CAN BE IMPROVED WITH TECHNOLOGICAL INTERVENTION

Conclusion

The project undertook the analysis, implementation and evaluation

The analysis part led to the thorough understanding of the business process and identification of the existing gaps

The implementation (research, design and approval) is an ongoing process ; only certain recommendations could be implemented due to the time constrained feasibility

The implemented changes that were confined to the front desk , guiding the patients through signage and scheduling changes showed the reduction in time spent for preparation , waiting time
for GA patients and idle time for the machine.

THANK YOU