ASSESSMENT OF CATH LAB PROCESS FLOW

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Every Life Matters

Introduction

A catheterization laboratory or Cath lab is an examination room in a hospital or clinic with diagnostic imaging equipment used to visualize the arteries of the heart and treat any stenosis or abnormality found.

Cardiac catheterization labs represent a significant capital investment for many hospitals. Realizing a return on this investment is increasingly challenging, given the introduction of advanced technologies and limitations in reimbursement. To meet the challenges and maintain fiscal health, hospitals are pursuing strategies to improve throughput, maximize equipment utilization and increase efficiency. Inefficient use of this limited resource increases costs and can compromise patient care.

OBJECTIVES:

- To assess the process flow in Cath lab.
- To identify delays in Cath lab process.
- To provide recommendations for the contributing factors present in Cath lab process that cause delay in procedures.

Methodology

Study Design: Observational and Descriptive study using DMAIC approach

Location: Kokilaben Dhirubhai Ambani Hospital, Mumbai.

Sample population: Patients coming from day-care, admitted or in emergency, for Peripheral, Paediatric Cardio & Adult Cardiac catheterization purposes.

Duration: 2 months

Sample Size: 300 cases

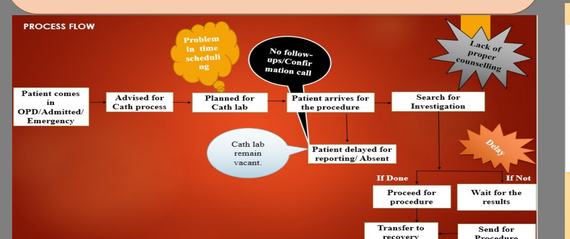
Sample selection: Sample was collected on daily basis as per planned and unplanned all the patient who has Catheterization procedures in Cath lab.

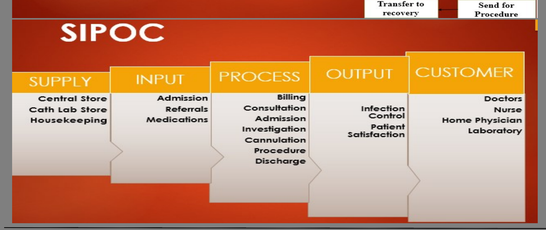
Define — Define the problem.

Measure — Quantify the problem.

Analyze — Identify the cause of the problem.

- Scheduling of patient for the Cath lab procedure.
- Time to shift in and shift out is huge.
- Availability of technicians that determine overtime and on-call payments

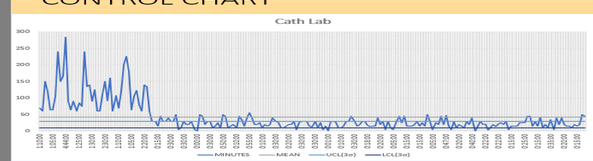




DATA MEASUREMENT PLAN

Process / Input (X)	Data source and location	Sample size	Who will collect the data	Data Collectio n	How will data be collected	Other data that should be collected at the same time
Cath Lab process	Source: Cath lab of KDAH	300	SATADRU DE	04.04.17 to 5.05.17	Manual	None
	Location: CATH LAB					

CONTROL CHART



Data Summarization (Y)

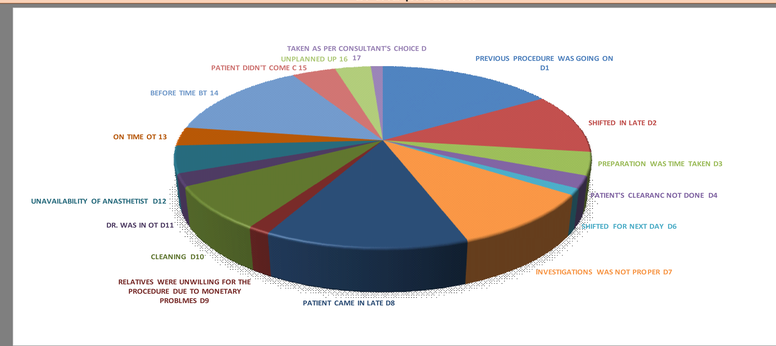
Baseline definition

For continuous (X)

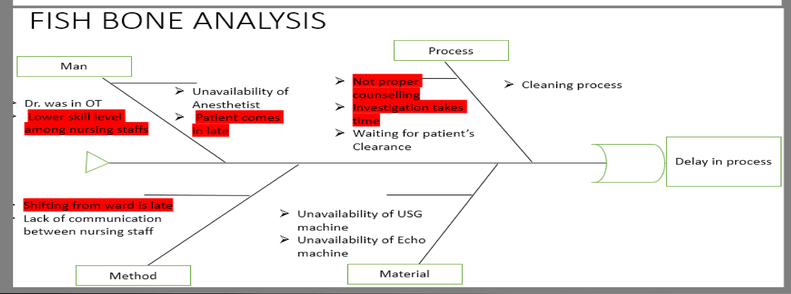
Output indicator	Average	Standard deviation	CP
X1	42.507	47.09	0.07
			CP<1 indicates the process variation is less than the tolerance.

For discrete (x)

Output indicator	No.of.units	No.of opportunities/unit	No of defects	DPMO	SIGMA LEVEL
X1	300	7	188	89523.81	2.81



FISH BONE ANALYSIS



Problem Areas	Recommendations
Lower skill level among nursing staff	Needs continuous training and performance appraisal
Patient comes in late	Confirmation calls should be done before the of procedure
Not proper counselling by the concerned au-	Proper counselling about charges, procedures, post CAG procedures,
Investigation takes time	All investigations should done before the day of Cath procedure.
Shifting from ward is late	A patient list should be circulated from Cath lab to every ward areas on the previous day of procedure containing patient details, time and date of the Cath procedure.
Unavailability of doctors	Proper scheduling of cases

CONCLUSION

As Catheterization lab is an highly decorated area of hospital, it should be utilized at its best. A good process flow ensures availability of materials, information and communication. Problem areas mentioned in flow process are indicated which can be improved and communication within the inter related departments can be made more easy to smoothly transfer of patients from Wards to Cath Lab and the post procedure patients from Cath lab to respective areas. Proper maintenance of patient scheduling chart can accommodate more number of patients who come on walk-in basis or unplanned or from emergency basis. All the Investigations if done in previous day, it will be lead to faster transfer of patients from waiting area to Cath lab.

DECLERATION

In this Cath lab assessment, DMAIC process is carried out till analyze phase. Improvement and Control phase take minimum six months of time. So due to time constraint it is carried till Analyze phase only.