SUMMER TRAINING AT KOKILABEN DHIRUBHAI AMBANI HOSPITAL (APRIL 1st to MAY 31st, 2015)

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KOKILABEN DHIRUBHAI AMBANI HOSPITAL

Kokilaben Dhirubhai Ambani Hospital & Medical Research Institute is a tertiary care hospital located in Andheri West, Mumbai. The hospital project was initiated in 1999 by Dr. Nitu Mandke as a large scale heart hospital. It is a 730 bedded multi-specialty hospital which became operational in the year 2009. The hospital got National Accreditation Board for Hospitals & Health care (NABH) in December 2014 and is looking forward to Joint Commission International (JCI).

DEPARTMENTS IN THE HOSPITAL

Clinical Services	Clinical support services	Utility Services	Administrative services
Accident and Emergency	Laboratory	Ambulance services	Human resource Management
Outpatient Department	Imaging	Dietary Services	Material Management
Operation Theatre	Physical Medicine and Rehabilitation	Security	Marketing
Indoor Patient Department	Biomedical waste	Laundry and Linen	Financial Management
Intensive Care Unit	Medical Records	Housekeeping	Engineering Services
Nursing department	Pharmacy	Call Centre	IT Management
Dialysis	Blood Bank		Medical Social Work
	CSSD		
	Mortuary		

The operations and functioning of each department were observed and studied and operational issues were noted. Out of all these, two major issues were studied in detail and projects were carried out in these departments. The problems identified were :

1. Delay in discharging patients in the Inpatient Department
2. Higher Report Turnaround Time in the Imaging Department.

INPATIENT DEPARTEMENT

The IPD provides detailed pre-procedure needs, their completion and coordination with the diagnostic facilities to arrive at the diagnosis and completion of treatment. IPD wards are located on floor numbers 9,11,12,13,14,15 & 16 of the hospital. The IPD rooms are of the following types : single room, twin sharing, deluxe room and suits. Each floor has three zones, east, west and central and each wing has a separate nursing station.

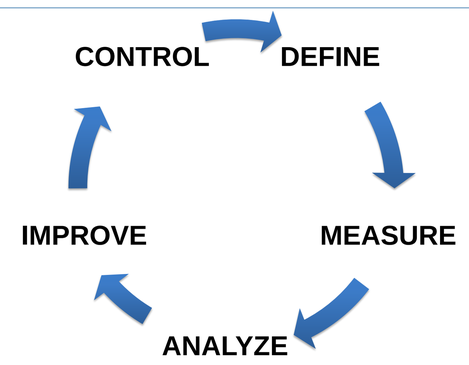
After the completion of treatment the patient is discharged from the hospital. Discharge process begins from the time the consultant gives his approval for discharging the patient to the time the patient vacates the ward. The study mainly focused on streamlining the Discharge Process of Kokilaben Dhirubhai Ambani Hospital using the Six Sigma approach.

IMAGING DEPARTEMENT

The investigations performed in the imaging department included CT Scan, MRI, X-Ray, Ultrasonography, Mammography. There were four X-ray machines, five ultrasonography machines, one mammography machine, one CT Scan machine, and two MRI. All machines were working on their complete utilization. However on close observation it was found that the time taken to deliver the report post examination was too high especially in the USG department and led to customer dissatisfaction. Keeping this in mind the study mainly focused on streamlining the Process of Report Preparation and Dispatch in the Imaging Department of the hospital using Lean Management approach.

SIX SIGMA APPROACH TO REDUCE TURNAROUND TIME OF DISCHARGE PROCESS

Six Sigma is a problem solving tool to improve existing business process by constantly reviewing and retuning the process. It has the following stages:



PHASE 1 : DEFINE

Problem Statement : To reduce and maintain the turnaround time (TAT) of discharge process.

Following activities were carried out during this phase:

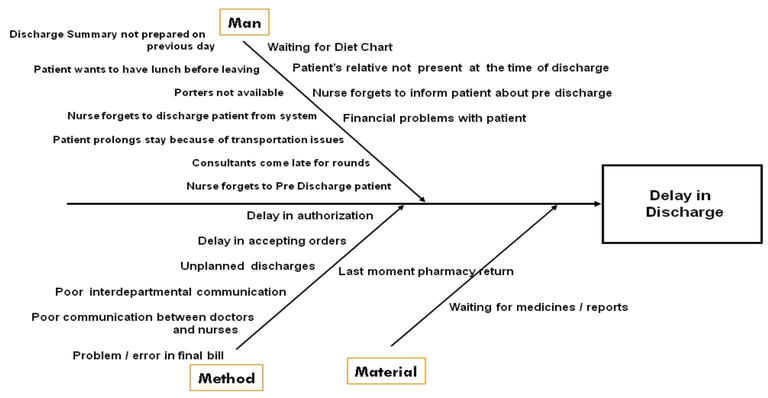
- Project Charter was prepared.
- Process Mapping was done for the Discharge Process.
- COPIS Diagram was used to redefine the problem.
- Voice of the Customer was collected from the customers.

PHASE 2 : MEASURE

It included development of data collection plan, data collection and determining the current performance. The following are the performance statistics regarding the current discharge process.

Output indicator	Average	DPMO	Sigma Level
Discharge Time	238 min	106349.2	2.75

PHASE 3 : ANALYZE



PHASE 4 : IMPROVE

Following recommendations were implemented.

- All discharge to be planned a day prior.
- Setting a time limit for pre discharge.
- Educating the nurses regarding the Discharge Process.
- List of Discharges of the day to be mailed to all concerned departments on the previous day.
- Discharge summary to be made available online on previous day.
- Prior instructions should be given to the patient and their relatives regarding their discharge process and probable time of leaving.
- Informing the patient about the probable bill amount 1-2 days before the discharge is planned.
- Identifying the peak hours of maximum number of discharges and putting in greater number of porters at this time.

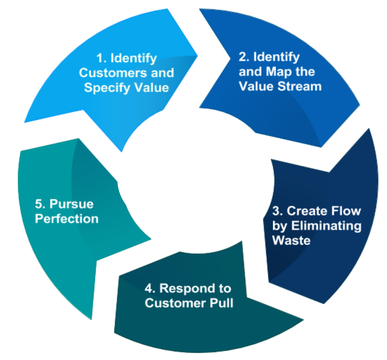
PHASE 5 : CONTROL

Output indicator	Average	DPMO	Sigma Level
Discharge Time	145 min	26785.71	3.4

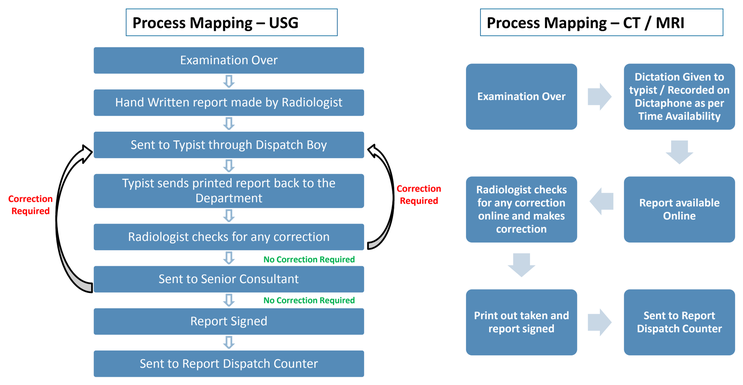
Though the project has shown significant improvement in the discharge process yet to sustain the change constant data tracking and documentation needs to be done to come to a level of Zero Defect.

LEAN APPROACH TO REDUCE REPORT TURNAROUND TIME IN IMAGING DEPARTMENT

Lean aims at defining and increasing value to the customer through eliminating waste at each stage.



PHASE 1 : IDENTIFY VALUE



Performance statistics were recorded for the current Report Turnaround Time of the Imaging Department. The average RTAT was 33 hours, 31 hours and 29 hours for USG, CT and MRI respectively.

PHASE 2 :MAP THE VALUE STREAM

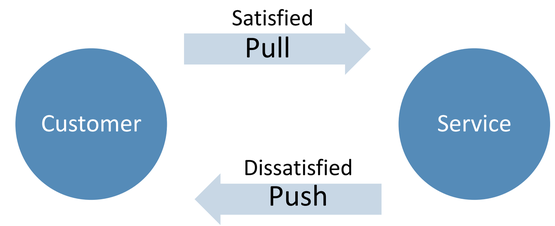
"Value" and "Waste" were identified at this stage. By clearly defining "Value" for our process from the end customer's perspective, all the non value activities or "waste" were targeted for removal.

PHASE 3 : CREATE FLOW

Creating flow focuses eliminating waste which ensures that the service "flows" to the customer without any interruption, detour or waiting. To achieve this following recommendations were made:

- Technicians to assist radiologist while examination and prepare handwritten report.
- Consultant dictates immediately after examination is over.
- A fixed format to be followed by all consultants.
- Report to be made online on the day of examination itself.
- All corrections to be made online.
- Installation of PACS and Voice Recognition System on full scale
- Reports to be immediately dispatched after authorization.

PHASE 4 : ESTABLISH PULL



The study revealed that the process of report preparation in the imaging department of Kokilaben Dhirubhai Ambani Hospital is not capable of meeting the customers' expectation of timely receiving the test reports thus leading to customer dissatisfaction.

PHASE 5 : SEEK PERFECTION

To achieve perfection in the process the management needs to implement and standardize the improvement plan.