

IMPROVEMENT OF PROCESS FLOW IN EMERGENCY USING DMAIC APPROACH



Introduction

- Accident and emergency service is a vital component of hospital services because injury is always unexpected and unplanned and if not treated urgently can result in damage, deformity and death
- The patient entering an emergency department can be saved only if there arrive at the right time, at right place, receives the right treatment and right resources

OBJECTIVE

- To study the patient flow in A&E
- Study the average time spent by patient in A&E department
- To study the determinants of patient delay A&E in KDAH
- To analyze and priorities the cause which are leading to increase waiting time in A&E
- Based on the analysis, suggesting measures to reduce the waiting time of A&E department which are economically viable

Methodology

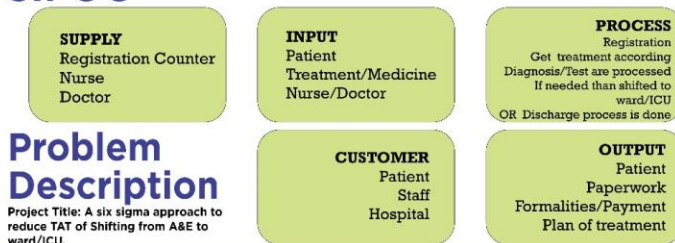
Study Design: Descriptive & observational study.
Location: Kokilaben Dhirubhai Ambani Hospital.
Study Subject: Emergency work flow process
Sample population: Patients (Walk-in), Emergency Cases
Duration: 2 months
Sample Size: 200
Sample selection: Sample was collected on daily basis as per planned and unplanned all the patient who has been admitted in ward or ICU from Emergency Department

DEFINE

Process Flow



SIPOC

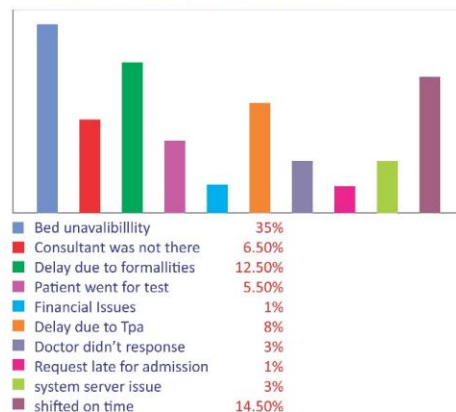


Problem Description

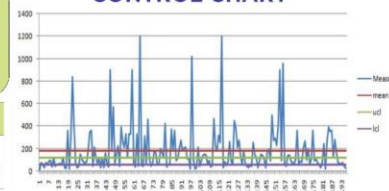
Project Title: A six sigma approach to reduce TAT of Shifting from A&E to ward/ICU.

Problem	Customer Impact	Business impact
Delay in Shifting from A&E to ward/ICU	Customer Dissatisfaction	Bed Blocking in A&E Decrease in utilization rate

MEASURE OPPORTUNITY

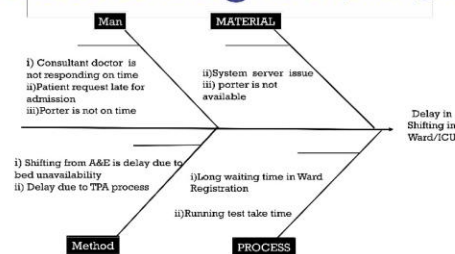


CONTROL CHART



ANALYSE

Fishbone Diagram (Shifting in A&E)



Data Summarization (Y)

For continuous (X)			
Output indicator	Average	Standard deviation	Cp
X1	180.3316	205.8391	0.049

For discrete (X)

Output indicator	No. of units	No. of opportunities per unit	No. of defects	DPMO	Sigma Level
X1	200	9	171	76,950,000	2.81

FINDINGS	RECOMMENDATIONS
Consultant didn't respond on time	Consultant should know about his/her OPD timings or a reminder Call /Text messages /mails can be done
Porter is not available	Make sure that the enough porters are available during rush hours
Admission process delay due to System Server issue	IT personal should search for alternative options for software solutions that can reduce the delays in admission process
Bed Unavailability	Enough of bed should be avail and the dashboard technique should have introduced in hospital
Long waiting time in registration	Applying Queuing theory