REDUCING THE DELAY IN INTRA-HOSPITAL PATIENT BED TRANSFER PROCESS USING DIMAC APPROACH

INTRODUCTION

The study mainly focuses on streamlining the current patient bed transfer process from ICU s to wards in CARE Hospital. Time taken for each step-in patient transfer was recorded, analyzed and causes for delay at every step were identified using DMAIC approach.

OBJECTIVES

1) To study the existing patient bed transfer process from ICUs to ward.
2) To suggest improvement solutions to decrease the delay in transfer of patients to wards, in turn making the ICU beds available to critically ill patients.

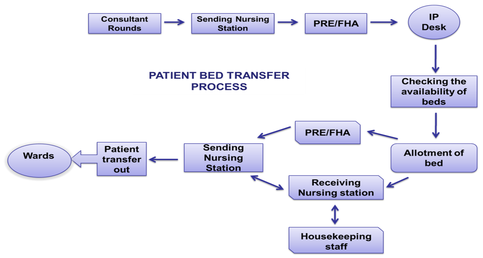
METHODOLOGY

- **Study Area -** 2nd floor ICU s of CARE Hospitals.
- **Measurement Method –** The time taken from doctor advice for transfer of patient from ICU s till transfer out of the patient to ward.
- **Sampling Method** –Convenient sampling technique is used.
- **Sampling Timeframe** – Data was collected from 07/04/2017 to 03/05/2017.
- **Sample Size** – 110 transfer outs to wards
- **Inclusions criteria -** Transfer orders advised between 8AM – 8PM

DEFINE

Statement of problem – Delay in time taken for intra-hospital patient bed transfer from ICU s to wards.

SUPPLIERS	INPUTS	PROCESS	OUTPUTS	CUSTOMERS
Physicians	Patient clinical condition	- Identifies the patients to be transferred - Requirements for transfer specified	- Transfer Order	Transferring Nursing Station Patients/attendants
Transferring Nursing Station	Transfer order	- Inform PRE/Floor Hospital administrator - Patient preparation for transfer. - Checking indents.	- handing over patient to receiving Nursing Station	Patient PRE/Floor Hospital administrator Receiving Nursing Station Housekeeping
PRE/Floor Hospital administrator	Checking the case sheets for transfer out orders and collecting information from nursing	- Checking & conforming room eligibility. - Counseling of Patient/attendants - Bed request raised at IP - Coordinating with floor admin	- Transferring the Patient	Transferring Nursing Station IP Desk Patients/attendants
IP desk	- Request for bed from PRE/FHA - Bed occupancy status - All Nursing Station & Discharge pool	- IP checks the availability of bed through system and phone calls. - Informing receiving nursing station about shifting.	- Allotment of beds by IP.	Receiving & Transferring Nursing Station PRE/Floor Hospital administrator
Receiving Nursing Station	- IP Desk - Transferring Nursing Station - Housekeeping	Making necessary arrangements for bed allotment	Taking handover of the transfer patient.	Patients/attendants
Housekeeping	Transferring & Receiving Nursing Station	Transfer of Patient. Cleaning of allotted bed	- Transferring the Patient	Receiving Nursing Station PRE/Floor Hospital administrator



VOICE OF CUSTOMER

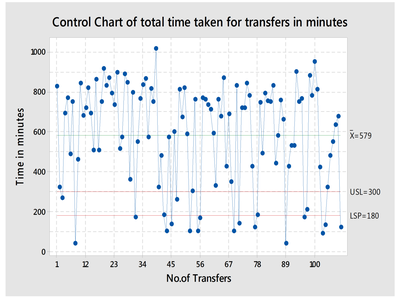
External customer	Internal customers
Long waiting time for transfer of patient.	Delay in allotment of beds. Delay in vacating the allotted bed by previous patient. Delay in transfer of patient due to shift change of nurses.

MEASURE

PROCESS	AVERAGE TAT
T1= Time taken to reach the information about Room shift after Dr. advised	0:17
T2 =Time taken to raise the bed request at IP	0:37
T3 = Time taken for bed allotment	3:57
T4 = Time taken to transfer out the Patient after allotment of bed	4:46
T_T = Total time for the process i.e. T1+T2+T3+T4 TOTAL TAT	9:37

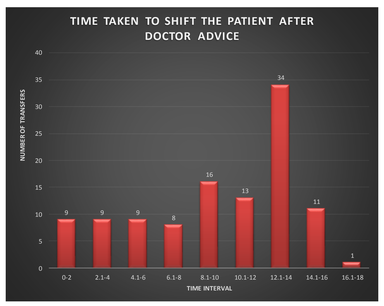
Baseline Performance (Current Performance)

Average	Standard Deviation	DPMO	Yield Percentage	Current Sigma level	Process Capability
579 minutes	261 minutes	163636	83.6%	2.5-2.4	0.08

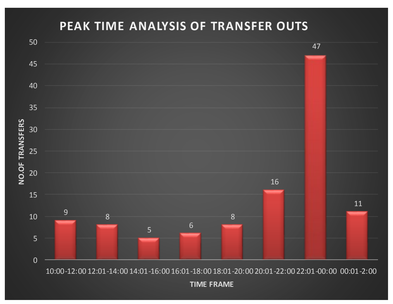


81% of the cases took more than 5 hrs. to transfer out

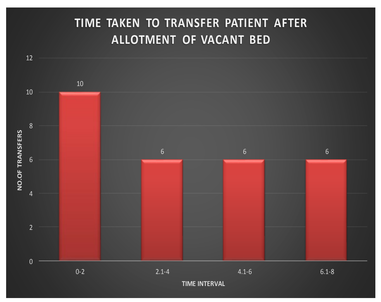
Average time taken for Emergency department patient to transfer to ICU s is 9 hrs.,



68% of the cases took more than 8 hrs. for transfer.

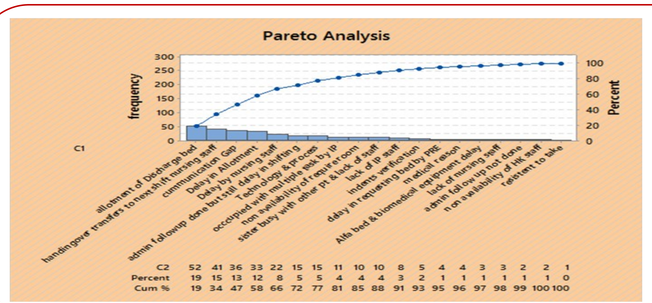


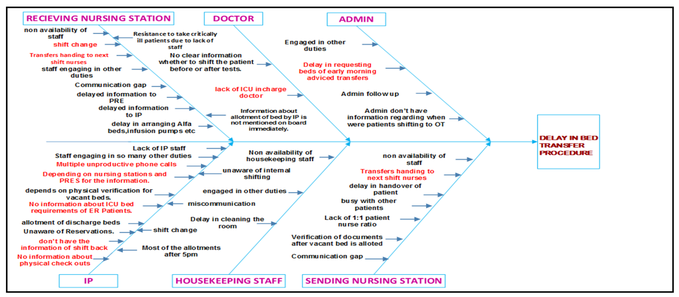
67% of total transfers took place after 8 PM.

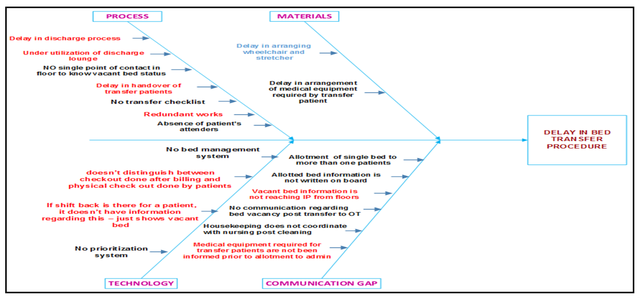


Even after allotment of vacant bed , 64% of the transfers took more than 2hrs.

ANALYSE







IMPROVE

The analysis of current process along with recommendations for improvement were presented and discussed with the management, consultants, and nursing incharges during brainstorming session. Pareto analysis shows 80%of the major causes for delay are due to allotment of discharge beds, Shift change of nurses, communication gap, delay in allotment of bed.
Taking these causes into consideration improvement solutions were developed.

Improvement solutions

- Bed management System.
- Appropriate bed allocation.
- Preparation of transfer check list.
- Speed up discharge process.
- Effective utilization of discharge lounge.
- The necessary medical equipment arrangements should be under one control.
- ER/Cath lab/floor should request beds through IP simultaneously
- Preparation of patient for transfer should start immediately after advice to transfer.
- Patient handover time can be decreased by having a document which briefly explains the entire procedures patient underwent and medications etc.

CONCLUSION

Patient bed transfer process from ICU s to wards is an important aspect in patient care. The study revealed that the present patient bed transfer process is taking too long leading to patient dissatisfaction and blockage of beds for long duration which may cause loss of revenue to the hospital.

Implementation and control of the suggested improvement solution derived from DMAIC methodology would help in achieving the satis-

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