



TEAM EXCELLENCE AWARDS

for **CONTINUAL QUALITY
IMPROVEMENT BREAKTHROUGHS**



**P. D. HINDUJA HOSPITAL
& MEDICAL RESEARCH CENTRE**

PROCESS INNOVATION FOR EFFICIENT INPATIENT BED MANAGEMENT



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P.D. HINDUJA HOSPITAL



PROBLEM DEFINITION

Process Innovation for Efficient Inpatient bed management :

**Enhancing bed availability for Patients and
reducing room preparation TAT**

GOAL :- To reduce time for room readiness from 4hrs to 2hrs



INTRODUCTION

- **P.D. Hinduja Hospital & MRC is a 400 bedded tertiary care hospital with over 90% occupancy.**
- **There is a constant waitlist of patients who need timely bed availability.**
- **In addition to planned admissions, there are multiple admissions from the emergency department.**
- **In regular patient feedback and consultant feedback, bed management in the hospital has been an area of concern.**
- **Delay or refusal wrt bed availability affects timely patient care and affects brand image of the hospital.**
- **A group of workforce hence identified this area for indepth study and workable solutions.**

Project TEAM

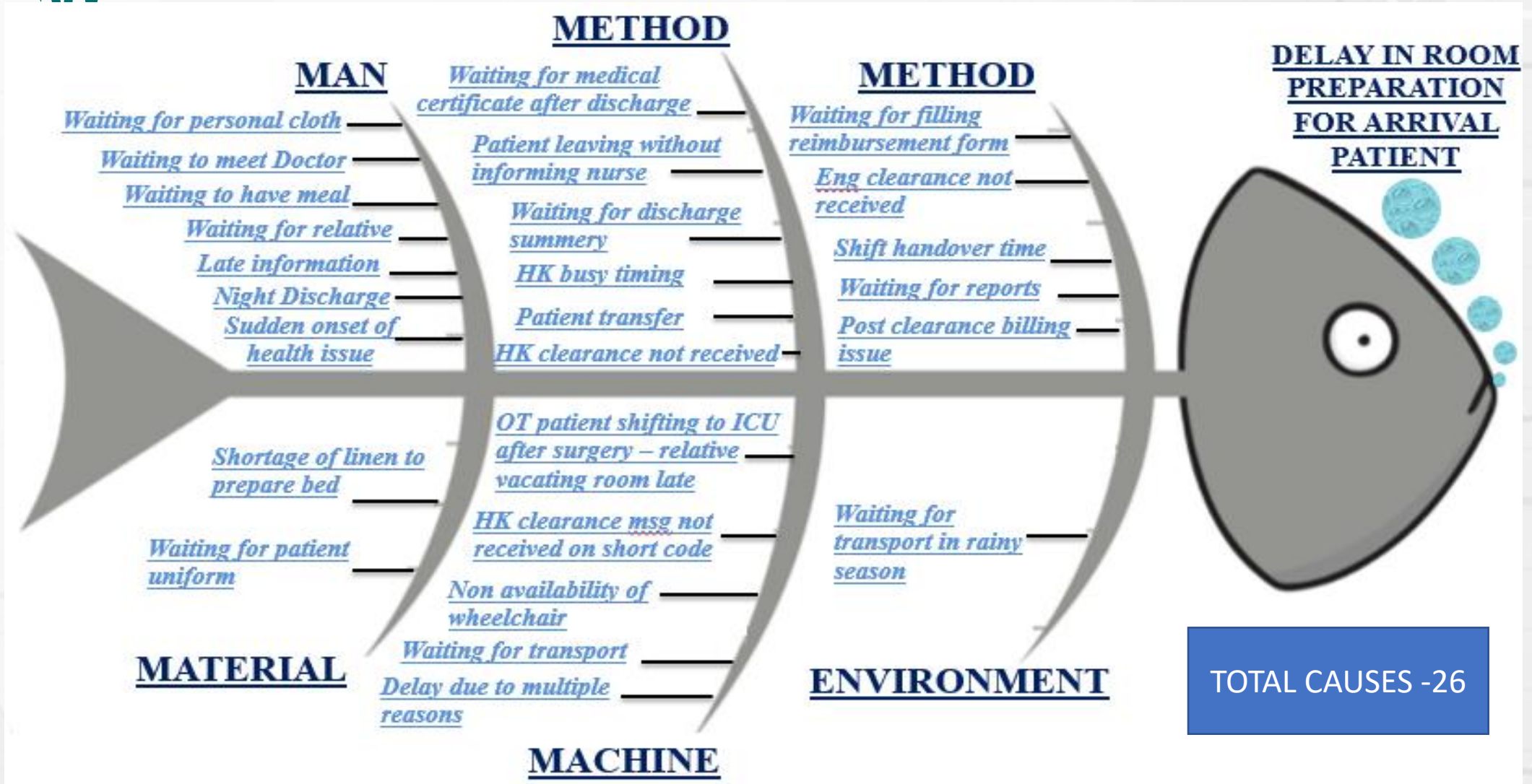


PI
HEAL
Mumbai, Mar 2023

| Role | Name | Department |
|-------------|-------------------------------------|---------------------------------------------------------------------------------------------------------|
| Champion | Ms. Bhavisha Kharnare | Head In-Patient Services, Guiding the team |
| Team Leader | Ms. Sulabha Chachad | Administration Team meetings, action points discussion, follow up for completion, monitoring of data |
| Team Member | Mr. Lailesh Baraskar | IT To help with software development and other IT requirements |
| | Mr. Abhimanu Singh | Laundry, suggestions for improvement, laundry issues check |
| | Mr. Shripad Bhasme | Engineering Eng aspects, room preparation as per eng norms, alerts |
| | Mr. Rajesh Bhatia | Admission Billing TPA Markings, Helping to billing related issues |
| | Mr. Bharat Pise | Biomedical, Room preparation |
| | Mr. Mahesh Borse, Mr. Laxman Bhogle | Housekeeping Team organization and training for TAT reduction, Monitoring |

PROBLEM DIAGNOSIS

Cause & Effect / Fishbone / Ishikawa - Diagram



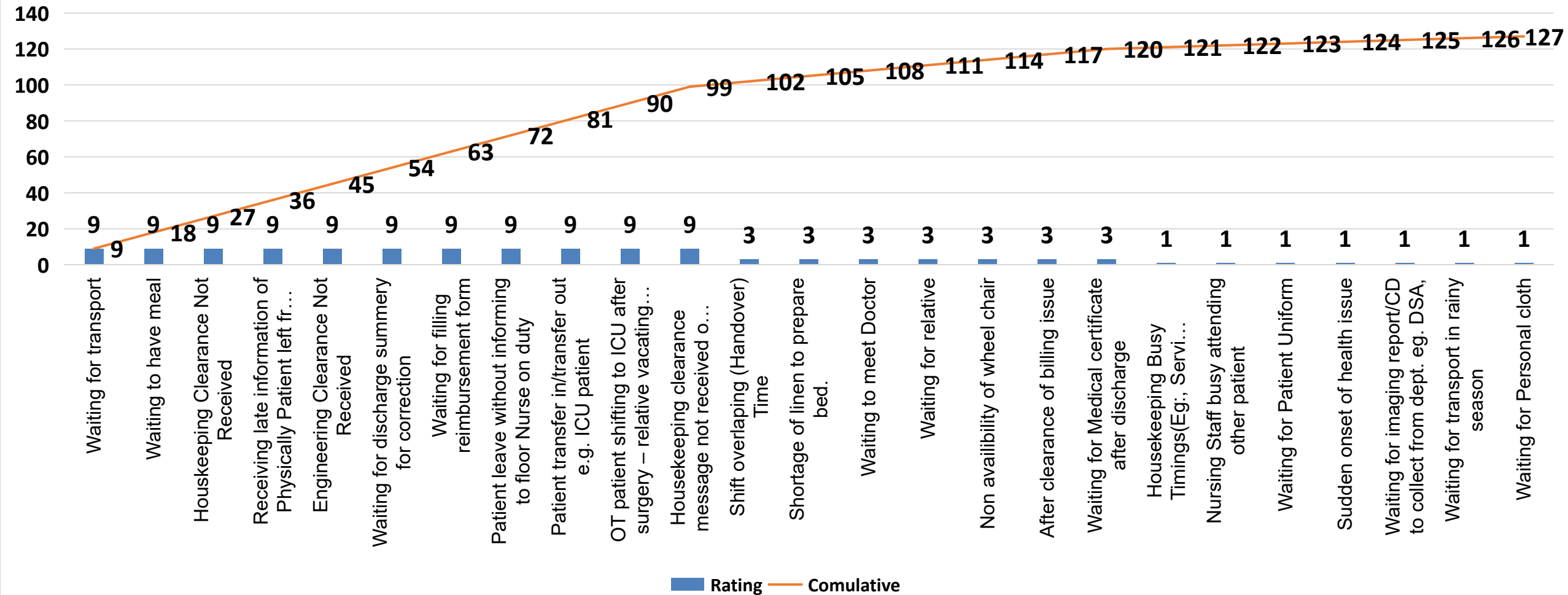


PARETO CHART

Total No. of causes as per 80% in PARETO graph are 11 out of 26

Top 80% issues

Delay in Preperation of Rooms/ Beds Post Discharge





PROBLEM REMEDY

Discharge Preparation and Intimations

New Procedure

- 3rd day discharge counselling – Inform relatives regarding Transport services in addition to other discharge points. (ALOS- 5 Days)
- On discharge day, timely intimation to patient regarding discharge steps.

| | |
|---------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Discharge Initiated | Context :- "Discharge process for Patient Name <""> has been initiated. Contact floor nurse for any special requirements. You will receive a msg on reg. number as bill is generated. For bill clearance, carry visitor pass, deposit slips,..... |
| Bill ready | Your patients final bill is ready. Please contact the billing/Cashier along with the visitor pass and original receipts. Pls vacate room within 30min to avoid additional bed charge-P.D. Hinduja Hospital, Mahim. |
| Physical discharge | Physical Discharge for patient Adm No <""> on Bed location <""> has been initiated. P.D. Hinduja Hospital Mahim |

EARLIER PROCEDURE

1. Verbal Intimation to patient by Consultant on the day of discharge or a day prior
2. Patient does not know about administrative requirements
3. On discharge days, patient relatives regularly checks status with floor nurse
4. Last minute issues – financial / logistics



Day of discharge, complete tracking of patient in discharge tracker

| From Date 30-Aug-2022 | | To Date :- 30-Aug-2022 | | | | | | | | |
|------------------------------|-----------------------|------------------------|-------------------------|--------------------------------------|--------------------------|--------------------------------|-----------------------|----------------------|---------------|--------------------------------|
| Mark for Disch Date | Mark for Disch Date | Disch File Ready Date | File Handed Over to A&B | Bill Ready Date | Financial Clearance Date | Discharge HandOver Date | Phy Discharge Date | Total Discharge Time | ENG Date Time | HK Date Time |
| 1500086 | 30-08-2022 10:00:20AM | 30-08-2022 10:21:21AM | 30-08-2022 10:37:00AM | 30-08-2022 11:08:46AM | 30-08-2022 11:35:00AM | 30-08-2022 12:10:01PM | 30-08-2022 12:29:02PM | 2hrs:28min:42sec | | 30/08/2022 13:30:56 |
| Pat Name :- CHOUHARY NISHANT | | Bed Loc :- 14W14 | | Consulting Doctor :- P UDANI VRAJESH | | Doctor Speciality :- NEUROLOGY | | | | |
| Pat Type :- CSH | | T1 :- 21min:1sec | T2 :- 15min:39sec | T3 :- 31min:46sec | T4 :- 26min:14sec | T5 :- 35min:1sec | T6 :- 19min:1sec | | | |
| Remark:- | | | | | | | | | | Remark type:- PHARMA IND DELAY |



PROBLEM REMEDY

Post Discharge Information Intimations

EARLIER PROCEDURE

1. Patient waiting even after discharge handover
2. Nurse informs HK after patient physically leaves

**TOTAL MANUAL PROCESS
WITH NO TAT MONITORING
AND ACCOUNTABILITY**

Automated
Intimations

- Discharge Lounge facility for Patients in case they are awaiting for transport related measures
Mark for discharge – SMS alert to patient for vehicle booking (Transportation Issue) – Tie up with a vendor
- Floor staff updates “PHYSICAL DISCHARGE IN THE SYSTEM”
- SMS INTIMATION TO HK & ENG SUPERVISOR TO INITIATE ROOM CLEANING INSPECTION

New Procedure



Patient XYZ has been transferred from 8W24 to 10S1 on 23/08/2022 19:35 Room cleaning to be initiated.
- P.D. Hinduja Hospital MAHIM

Today 21:21 2

Physical Discharge for patient Adm No 1502918 on Bed location 12S1 has been initiated. P.D. Hinduja Hospital Mahim

- Phase 2 of the project we added all beds available for cleaning – i.e **DISCHARGE + TRANSFERS (same volume as discharges)**



PROBLEM REMEDY

Post Discharge & Trf. Room Clearance

New Procedure

- HK and ENG supervisor physically inspect the room with carpenter, Painter and Electrician, ensures thorough checking before allotment and gives justification if room exceeds allocated benchmark time. (**NURSES TIME SAVED**)

EARLIER PROCEDURE

1. Floor attendant cleans room
2. Informs Nurse
3. Nurse checks the room
4. Nurse inform Admissions
5. Admission calls patient to confirm bed allotment
6. Patient arrives physically and is admitted

**TOTAL MANUAL PROCESS
WITH NO TAT MONITORING
AND ACCOUNTABILITY**

Real time
Monitoring

- **After HK clearance, SMS intimation to floor staff & Admission Dept. on their respective short codes. (Manual calling stopped)**
- **Floor staff prepares bed , parallel Admissions staff allots bed in the system to waitlist patients. (SMS to Patient on bed allotment)**

| P D HINDUJA HOSPITAL AND MEDICAL RESEARCH CENTRE HouseKeeping | | | | | | | | |
|------------------------------------------------------------------|---------|-------------------------------------------------|--------|-----------------------------------------------------------------------|------------------------|----------------------------|-----------------------------|-------------------|
| Select Floor : SIXTEENTH FLOOR | | Adm No : <input type="text"/> | | <input type="radio"/> Discharged <input checked="" type="radio"/> All | | | | |
| Save Search | | Below are list for patient ready for discharge. | | | | | | |
| | HH No | Adm No | Bed No | Disch. Handover Date | Physical Disch Date | Engineering Bed Clean Date | HouseKeeping Bed Clean Date | Remarks |
| <input type="checkbox"/> | 1788867 | 1501486 | 16W13 | 30/09/2022 05:30:00 PM | 30/09/2022 05:58:59 PM | <input type="checkbox"/> | 30/09/2022 06:34:38 PM | |
| <input type="checkbox"/> | 1855826 | 1501917 | 16E42 | 02/10/2022 04:10:00 PM | 02/10/2022 04:18:55 PM | <input type="checkbox"/> | 03/10/2022 05:34:31 PM | |
| <input type="checkbox"/> | 1847632 | 1502006 | 16S9 | 01/10/2022 02:00:00 PM | 01/10/2022 03:00:35 PM | <input type="checkbox"/> | 01/10/2022 05:43:21 PM | Terminal Cleaning |

13E43.
Housekeeping/
Engineering task has
been completed. -
P.D. Hinduja Hospital
Mahim



LOCKING THE IMPROVEMENT

- Alerts – 8 different real time alerts to HODs if benchmark is exceeded (**Earlier noticed only if patient complained**)

- Alert: Room Clearance delay (>2hrs)
- Alert: Eng. Clearance delay (>2hrs)
- Alert: Bill Readiness delay (>30min)
- Alert: Financial Clearance delay (> 60min for Cash patient)
- Alert: Financial Clearance delay (>180min for TPA patient)
- Alert: Discharge Handover delay (>30min)
- Alert: Physical Discharge delay(>30min)
- Alert: File Handover Delay (1:30hr)

Mail Contacts Calendar Tasks Briefcase Preferences Fwd: ALERT... ! X

Close Reply Reply to All Forward Delete Spam Actions

Fwd: ALERT... !!! Delay in HouseKeeping Clearance More than 2 hrs after Physical Discharge @ -17:00

From: systems@hindujahospital.com
 To: "Alkesh Goswami" <alkesh.goswami@hindujahospital.com>
 Cc: "Bhavisha Kharnare" <bhavisha.kharnare@hindujahospital.com>
 Sent: Thursday, 6 October, 2022 17:02:36
 Subject: ALERT... !!! Delay in HouseKeeping Clearance More than 2 hrs after Physical Discharge @ -17:00

Dear Sir/Madam

List of Delays as below
 Bed Location :- <4E25> with Adm No:- <1503091> is delayed by 124 minutes PHY DISC :- 06/10/2022 14:23 HK Clearan

| | | | |
|-----------|-------|-------|-----------------------------------------------------------------------------------------------------------------------------------|
| systems | Inbox | 16:03 | ALERT... !!! Delay in Engg Clearance more than 2 hrs after Phy @ -16:00 - De |
| systems | Inbox | 16:03 | ALERT... !!! DELAY IN FILE HANDOVER TO BILLING MORE THAN 1.5 hrs AFTER MARK FOR DISCH @ -16:01 - Dear Sir/Madam Lis 5 KB |
| scorginfo | Inbox | 16:01 | Request INITIATED of View File (REQUEST ID: 20156 PATIENT NAME: GIRI PABAN) - Hello, View File request is registered by IVF 2 KB |

- Room Clearance TAT is now a monthly indicator for HK team and part of KRA
- Other delays from various sections like Floor, Nursing, Billing is also monitored and they are informed about the % of discharges exceeding the given benchmark

| | Benchmark - CASH | Benchmark- CREDIT | Sep-22 Number of cases beyond benchmark | Oct-22 Number of cases beyond benchmark | Nov-22 Number of cases beyond benchmark | Dec-22 Number of cases beyond benchmark |
|------------------------------------------|------------------|-------------------|--------------------------------------------|--------------------------------------------|--------------------------------------------|--------------------------------------------|
| Mark for Disch Date To file ready | 30 | 30 | 36 | 25 | 14 | 8 |
| File ready to handover A & B | 60 | 60 | 64 | 58 | 38 | 42 |
| Bill ready post receipt | 30 | 30 | 668 | 556 | 544 | 564 |
| Financial Settlement (cash/credit) | 40 | 180 | 225/204 | 267/139 | 309/156 | 217/171 |
| Discharge handover | 20 | 20 | 739 | 679 | 741 | 747 |
| TOTAL | 180 | 320 | 174/65 | 239/64 | 131/84 | 237/101 |
| Physical leaving the room after handover | 30 | 30 | 353 | 326 | 544 | 247 |



CLONING THE IMPROVEMENT

As we have successfully implemented the process innovation at our Mahim unit, Our KHAR UNIT, with 100 beds is also in process of implementing this system

Escalations have helped us to maintain TAT, hence similar method will be used for other processes like CALL BELL etc to improve response time to In patients



TANGIBLE RESULTS

PRE IMPLEMENTATION TIME- 4HRS
POST IMPLEMENTATION TARGET - 2hr

Benchmark – Avg. 2 hrs. for room cleaning

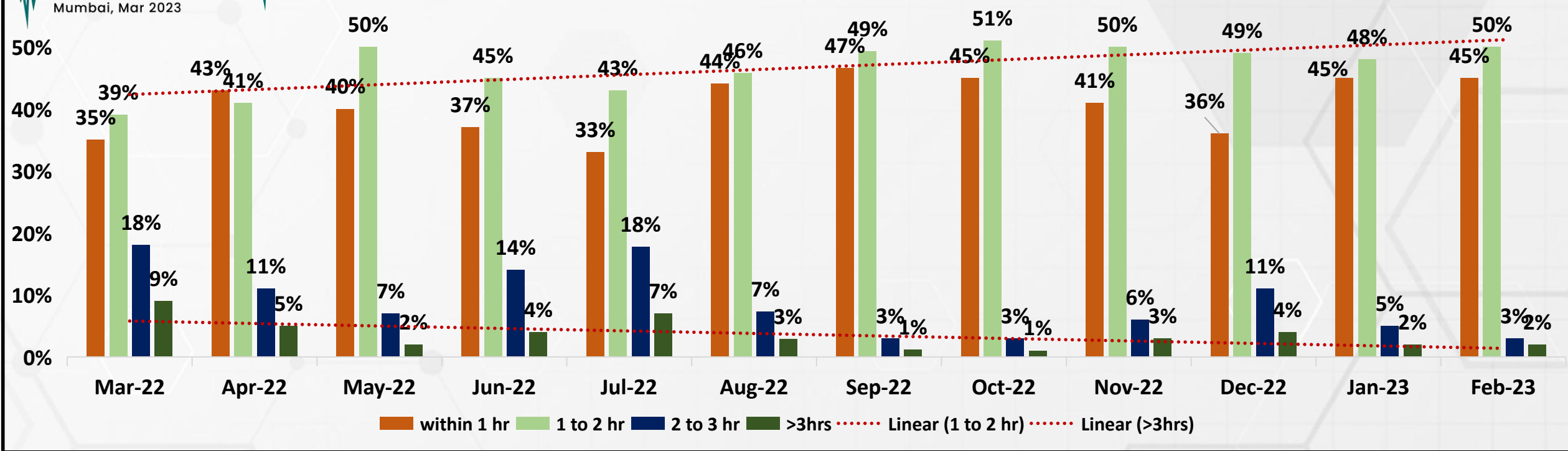




TANGIBLE RESULTS

PRIZE 2022
HEALTHCARE
Mumbai, Mar 2023

Room Preparedness TAT (Pre study time of around 4hrs)



| | Target | Mar-22 | Apr-22 | May-22 | Jun-22 | Jul-22 | Aug-22 | Sep-22 | Oct-22 | Nov-22 | Dec-22 | Jan-23 | Feb-23 |
|-------------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|
| Within 2hrs | 90% | 74% | 84% | 90% | 82% | 76% | 90% | 96% | 96% | 91% | 85% | 93% | 95% |
| 2 to 3 hrs | 7% | 18% | 11% | 7% | 14% | 18% | 7% | 3% | 3% | 6% | 11% | 5% | 3% |
| >3hrs | 3% | 9% | 5% | 2% | 4% | 7% | 3% | 1% | 1% | 3% | 4% | 2% | 2% |

TANGIBLE RESULTS

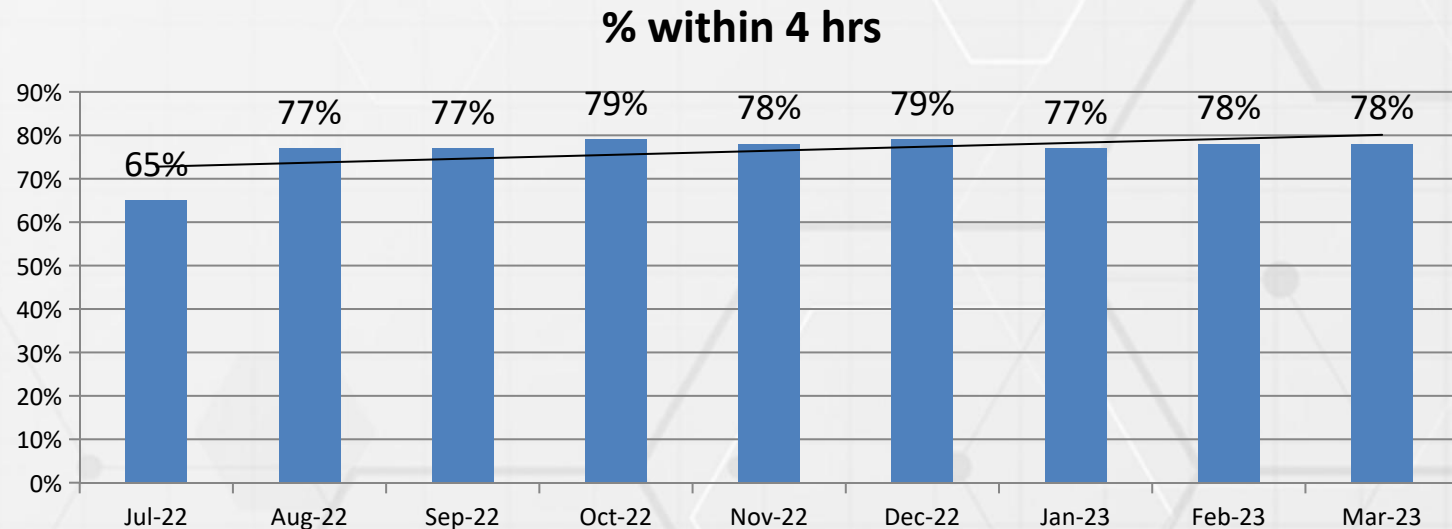
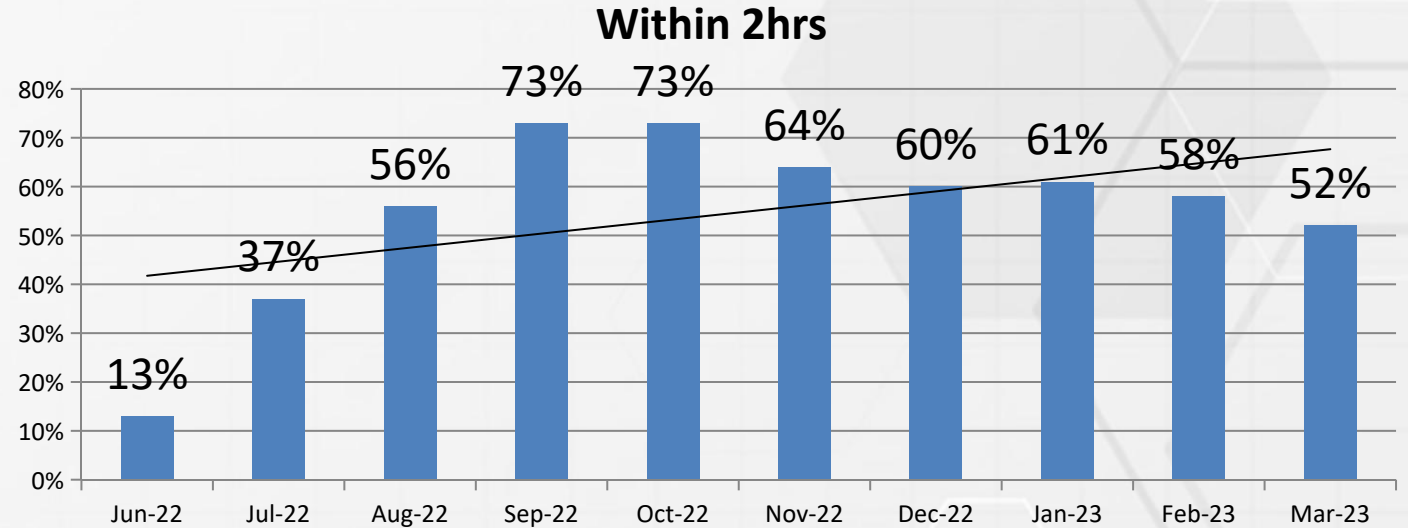


➤ **TAT of Room cleaning for Transfer Out patients-**

➤ **No Monitoring at the start**

➤ **TARGET -**

75% rooms to be cleaned within 2hrs of transfer Outs



➤ **TAT of new admission on the bed vacated post discharge of previous patient**

Pre Study – 6hrs

Target - <4hrs for 75% patients



INTANGIBLE RESULTS

Patient Satisfaction in Admission Process

Reduction in number of complaints related to delayed admission and communication gaps.
Open feedback from few regular patients

Nurse Time Saved for Patient Care Activities

Considering a nurse would spend 7 min per bed for coordinating various bed activities,
and an average of 50 discharges/ day + 50 transfers / day

700min /day or **12hrs (approx.) /day.**

This time can be used for Patient care and Core Nursing activities

Bed Time

Considering 2 hrs saving per discharge or trf, 200hr per day, 8 bed days

Avg. revenue/ bed day – 15000, will amount to 1.2lc /day and 36lc/month approx.



THANK YOU