A STUDY TO IMPROVE DISCHARGE PROCESS BY DMAIC APPROACH

GUIDED BY-

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Presented By

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AIM

To analyze and improve discharge process and find out reasons of delay in discharge time in the hospital.

OBJECTIVE

- To study discharge process flow and time taken at each step.
- suggest measures to streamline the discharge process.
- To find out reasons for delay in Discharge process

RESEARCH- METHODOLOGY

LOCATION:

- THE MISSION HOSPITAL DURGAPUR(W.B)

DURATION:

- 3 months; FEBUARY 2015 to 30TH APRIL 2015

STUDY DESIGN-

- operational research pre-test & post -test

SAMPLE SIZE:

- 250 and For Staff 80% of direct stakeholders for discharge process (including nurses , RMOs doctors, co-ordinators, GDAs and patient party)

  Exclusion criteria was unplanned discharges ,DOR ,DORB and discharges planned after 6 P.M prior day of discharge

SAMPLING METHOD

- - Convenience Sampling

STUDY AREA-

- Wards, billing department, insurance/TPA desk, corporate desk.

STUDY POPULATION-

Nurses, duty doctors (RMO's), consultants, administrative staff, discharge patients, patient party, corporate/TPA and billing staff.

DATA COLLECTION TOOLS:

- Questionnaire
- Observation Checklist
- In-Depth interview checklist, etc

DATA COLLECTION TECHNIQUES:

- Interview (patients), observation, record-review, in-depth interview (staff)

Define the Problem:

- The selection of that critical issue is based on the three key parameter
- ViZ. (i) Patient Centred Hospital Mission.
- (ii) Past complaints received from the Patients .
- (iii) Historical Patient satisfaction Survey results.

- By analyzing the above three key parameters with particular attention to the voice of customer (Patient feedback form), it was inferred that there is need to reduce patient discharging time, which had been identified as one of the critical factor contributing to dissatisfaction among inpatients and it increases revenue in hospital due to bed management by new admissions. The patient are not leaving bed before 12 Am most of the patients are going after that time due to which occupancy of hospital is very high and non availability of bed for new patients.

MEASURE

To measure the process in each step of discharge we introduced format for each and every department related to discharge process

For pharmacy and billing dept

IP NO:	Patient name	Billing card received by pharmacy for clearance	Billing card cleared by pharmacy	Billing card received by billing department	Billing card cleared by billing department

Form billing to corporate and TPA

TIME at which billing department gets billing card from wards	Time at which the update and make ready to billing cards	Time at which billing manager verify updated cards	Time at which the billing departments give intimation of ready cards to TPA	Time at which the billing departments give intimation of ready cards to CORPORATE

FOR TPA

Patient name	IP NO:	floor	Time at which discharge summary went to TPA	Time at which final ready bill sent to TPA	Time at which insurance desk mails to TPA	Time at which approval received from TPA	Time at which patient party informed	Time at which patient party comes	remarks

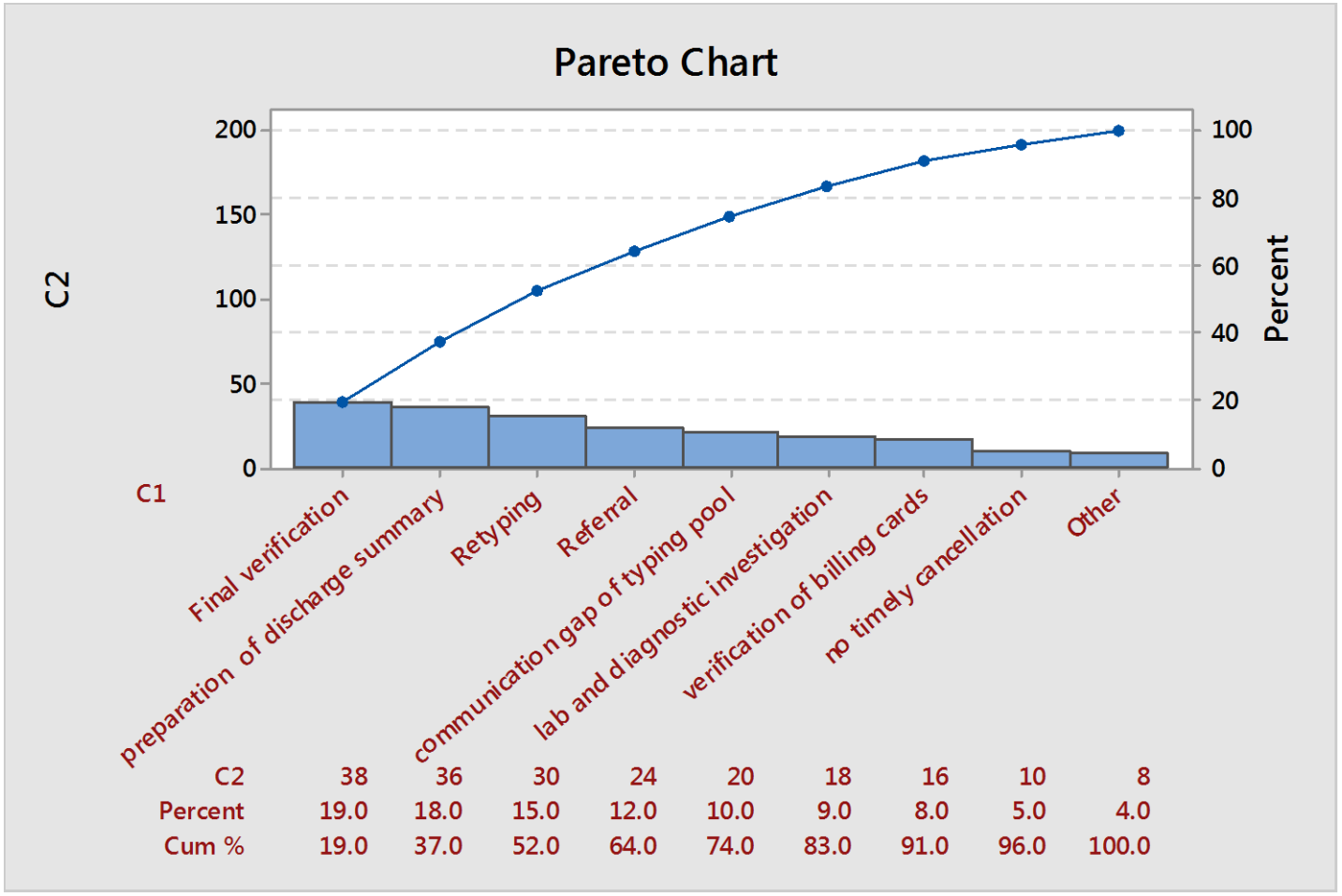
For typing pool

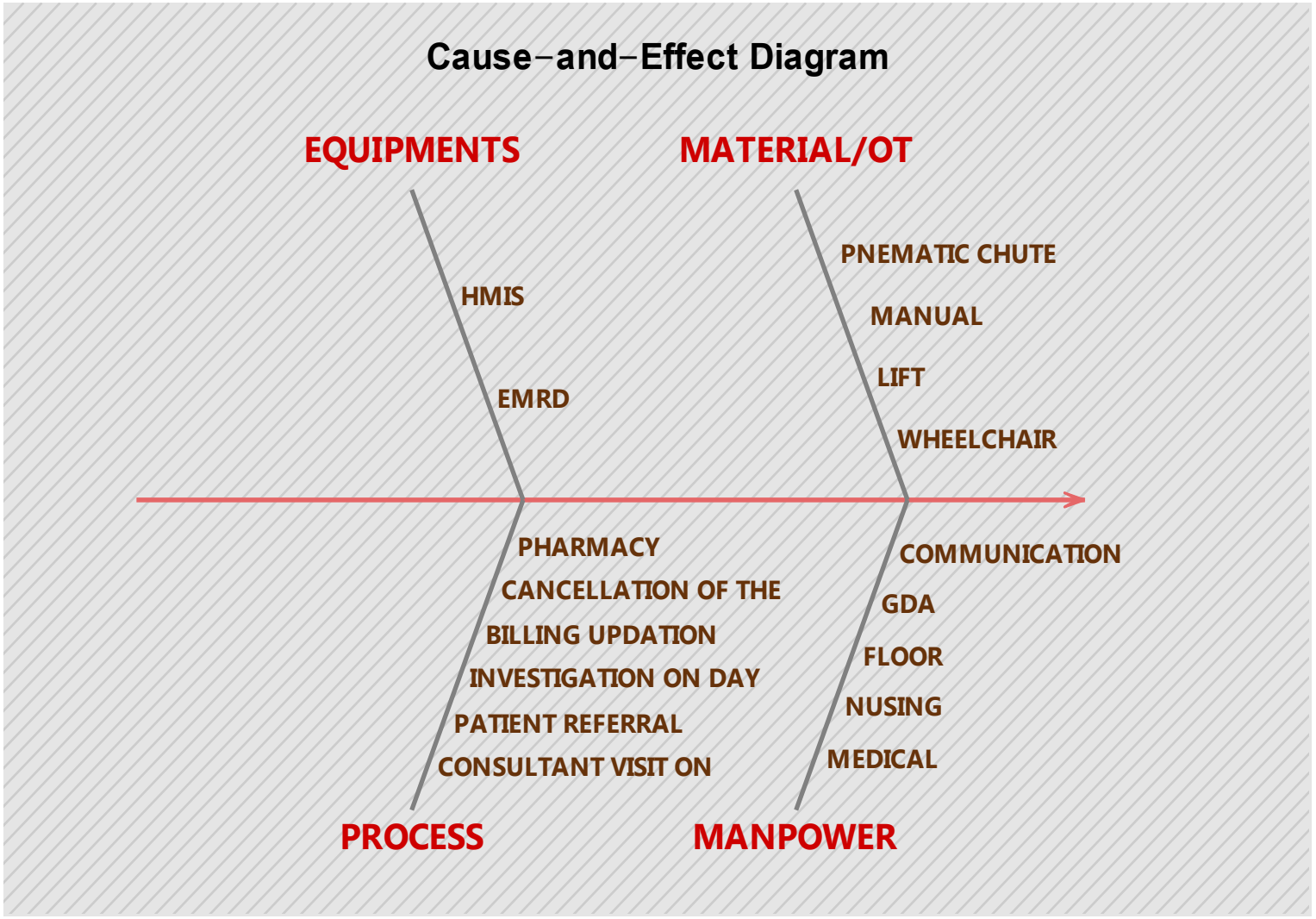
Date	IP NO:	Name of patient	floor	specialty	date of typing of initial summary	Date of typing of final summary

For wards

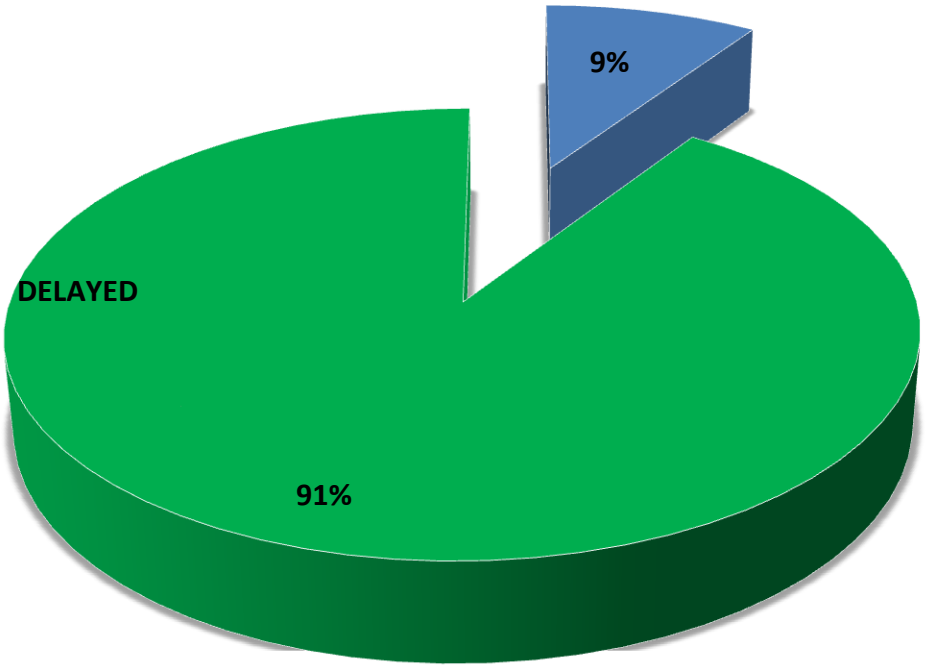
Patient name	Ip no:	Floor	Date of admission	diagnosis	Date of procedure	Date of initial summary written	Initial summary reached to typing pool
Final draft typed	Final draft sent to wards	Summary again sent to pool	Summary typed and sent to wards	Doctor verifies the summary and signed	Patient gets ready by GDA	Discharge summary counselling by nurses	Patient physically discharged

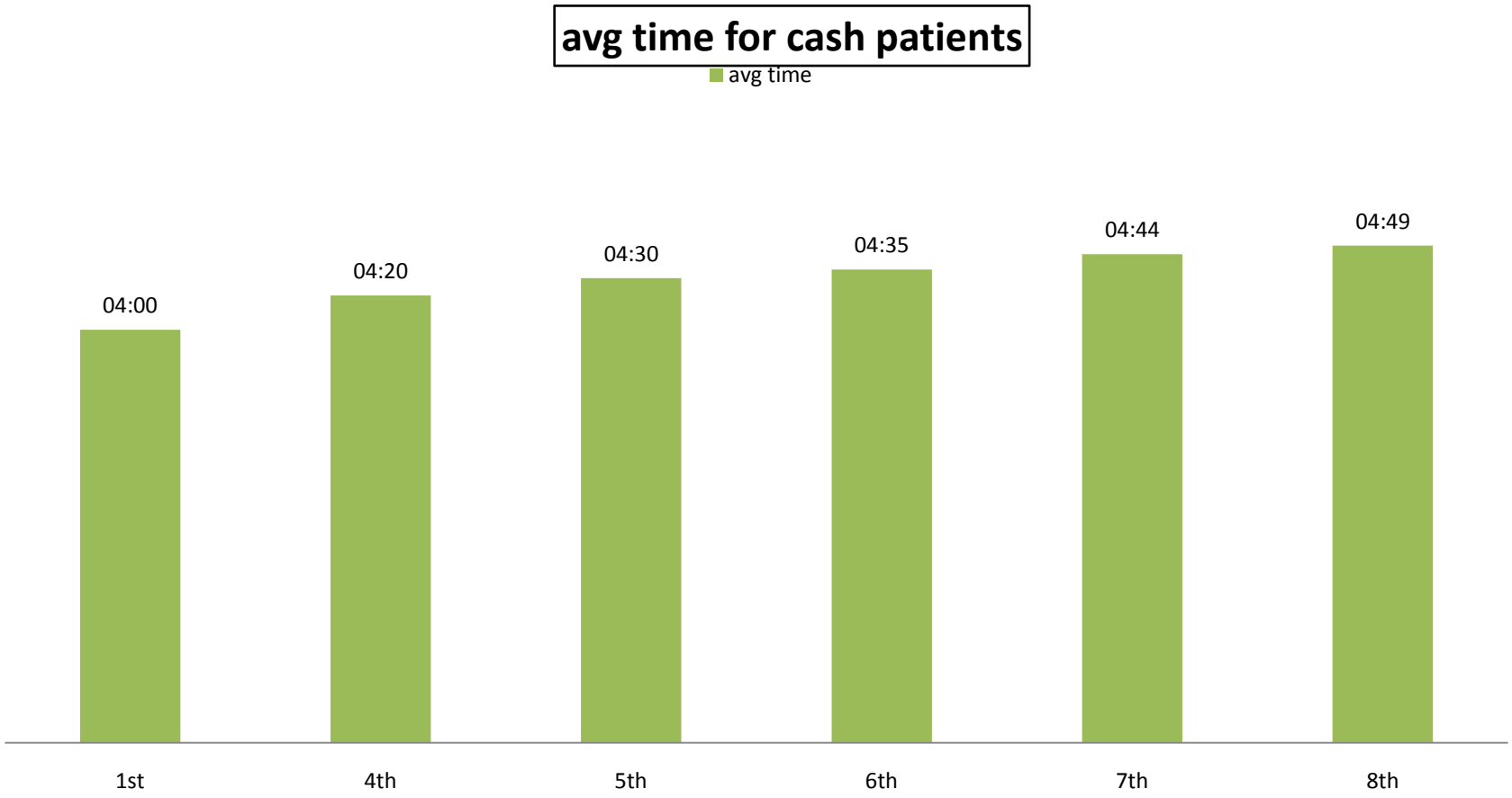
ANALYSIS

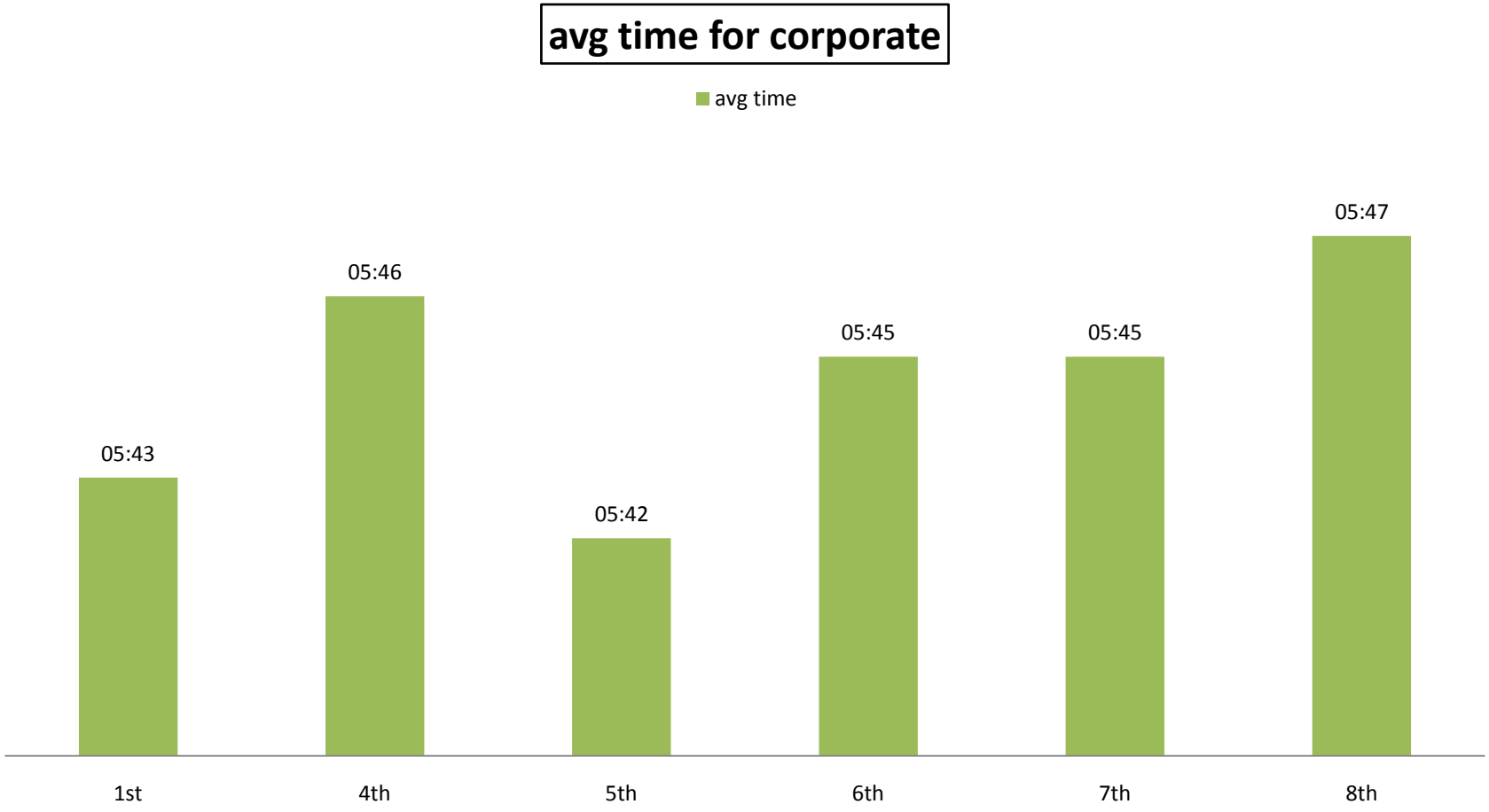

Pareto Chart
C2
Percent
200
150
100
50
0
100
80
60
40
20
0
C1
Final verification
preparation of discharge summary
Retyping
Referral
communication gap of typing pool
lab and diagnostic investigation
verification of billing cards
no timely cancellation
Other
C2 38 36 30 24 20 18 16 10 8
Percent 19.0 18.0 15.0 12.0 10.0 9.0 8.0 5.0 4.0
Cum % 19.0 37.0 52.0 64.0 74.0 83.0 91.0 96.0 100.0

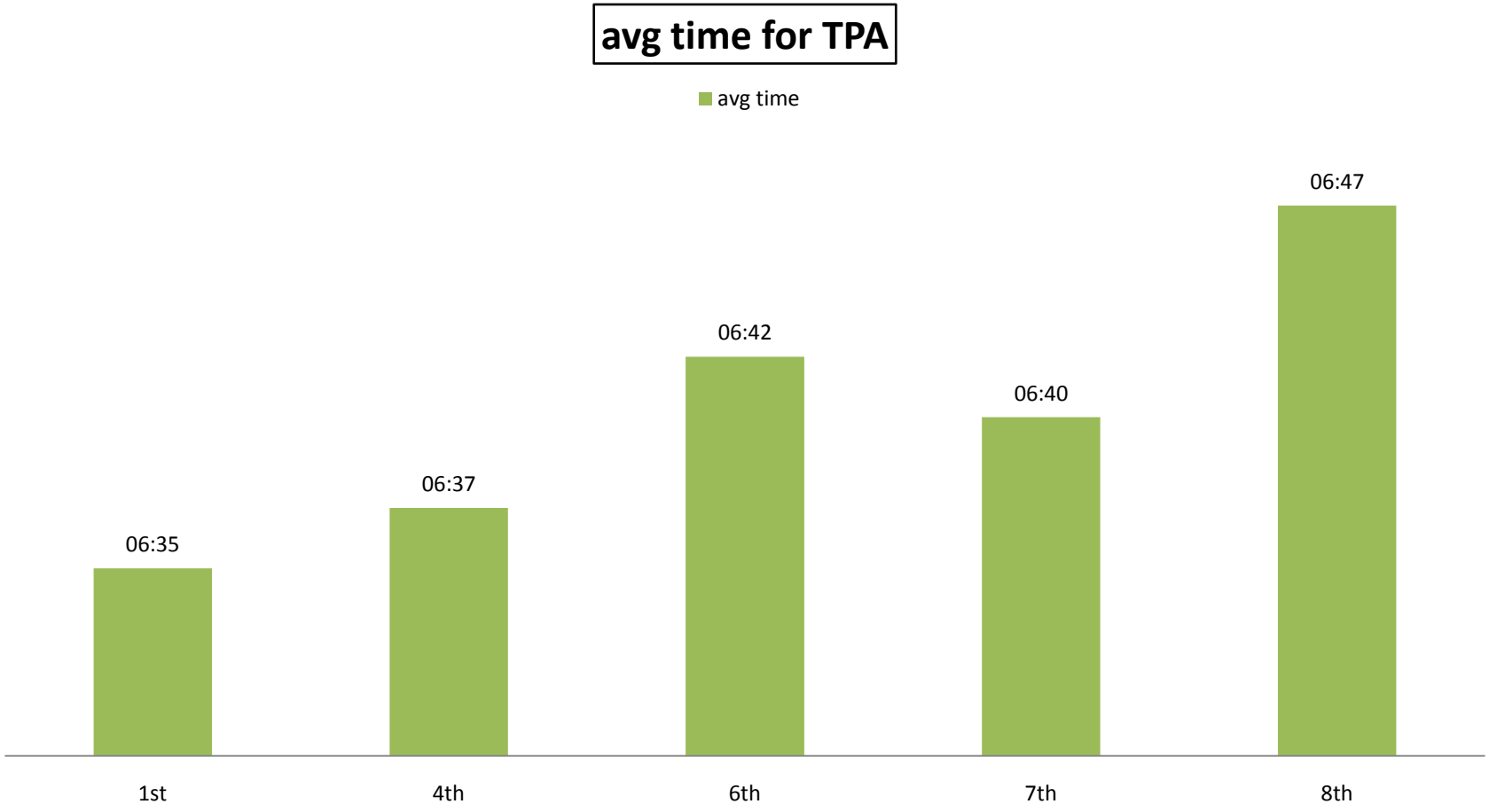

Cause-and-Effect Diagram
EQUIPMENTS
MATERIAL/OT
HMIS
EMRD
PNEMATIC CHUTE
MANUAL
LIFT
WHEELCHAIR
PHARMACY
CANCELLATION OF THE
BILLING UPDATION
INVESTIGATION ON DAY
PATIENT REFERRAL
CONSULTANT VISIT ON
COMMUNICATION
GDA
FLOOR
NUSING
MEDICAL
PROCESS
MANPOWER

BREAK UP OF discharges before 12 P.M

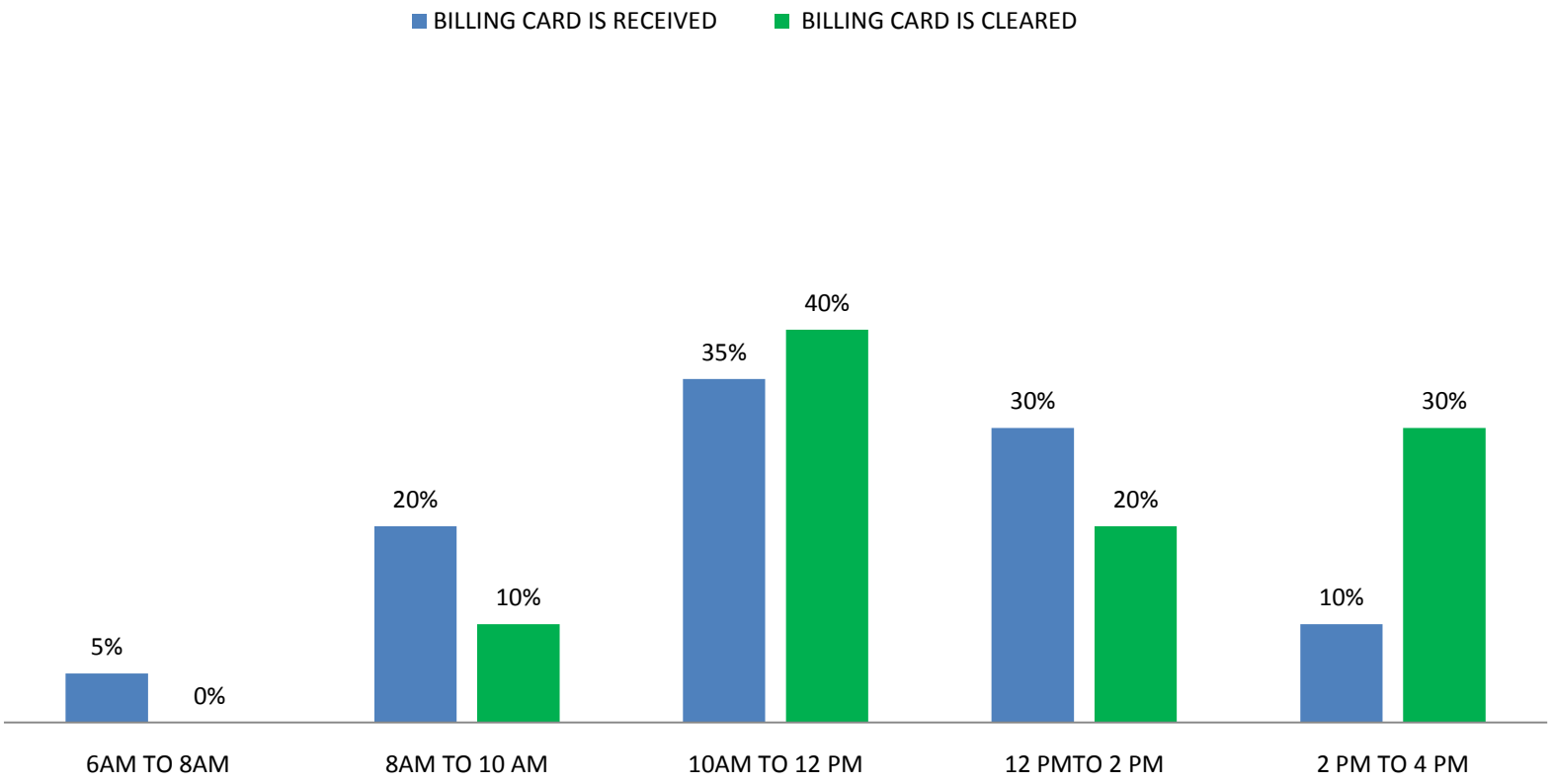



avg time for cash patients
avg time
04:00
04:20
04:30
04:35
04:44
04:49
1st
4th
5th
6th
7th
8th

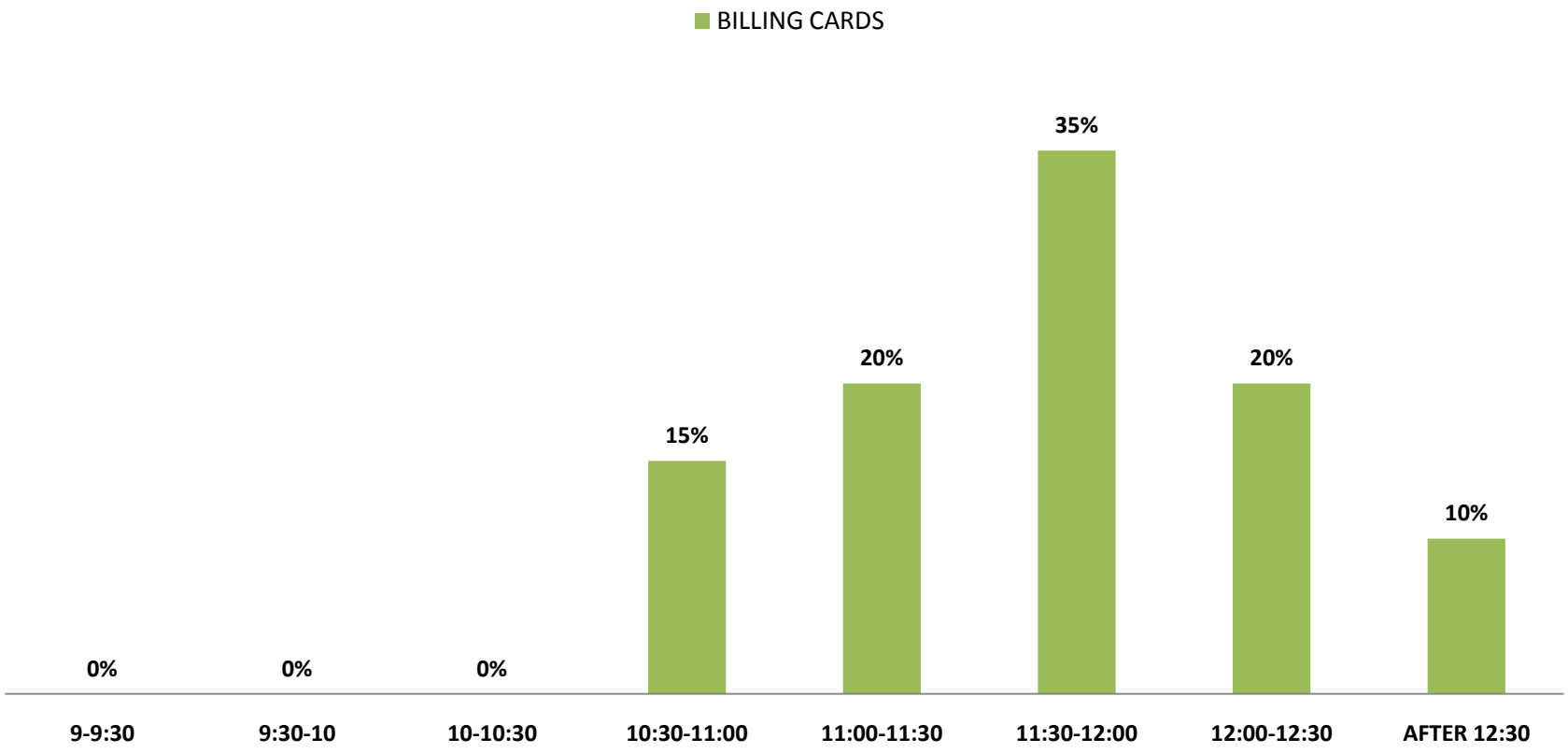

avg time for corporate
avg time
05:43
05:46
05:42
05:45
05:45
05:47
1st
4th
5th
6th
7th
8th


avg time for TPA
avg time
06:35
06:37
06:42
06:40
06:47
1st
4th
6th
7th
8th

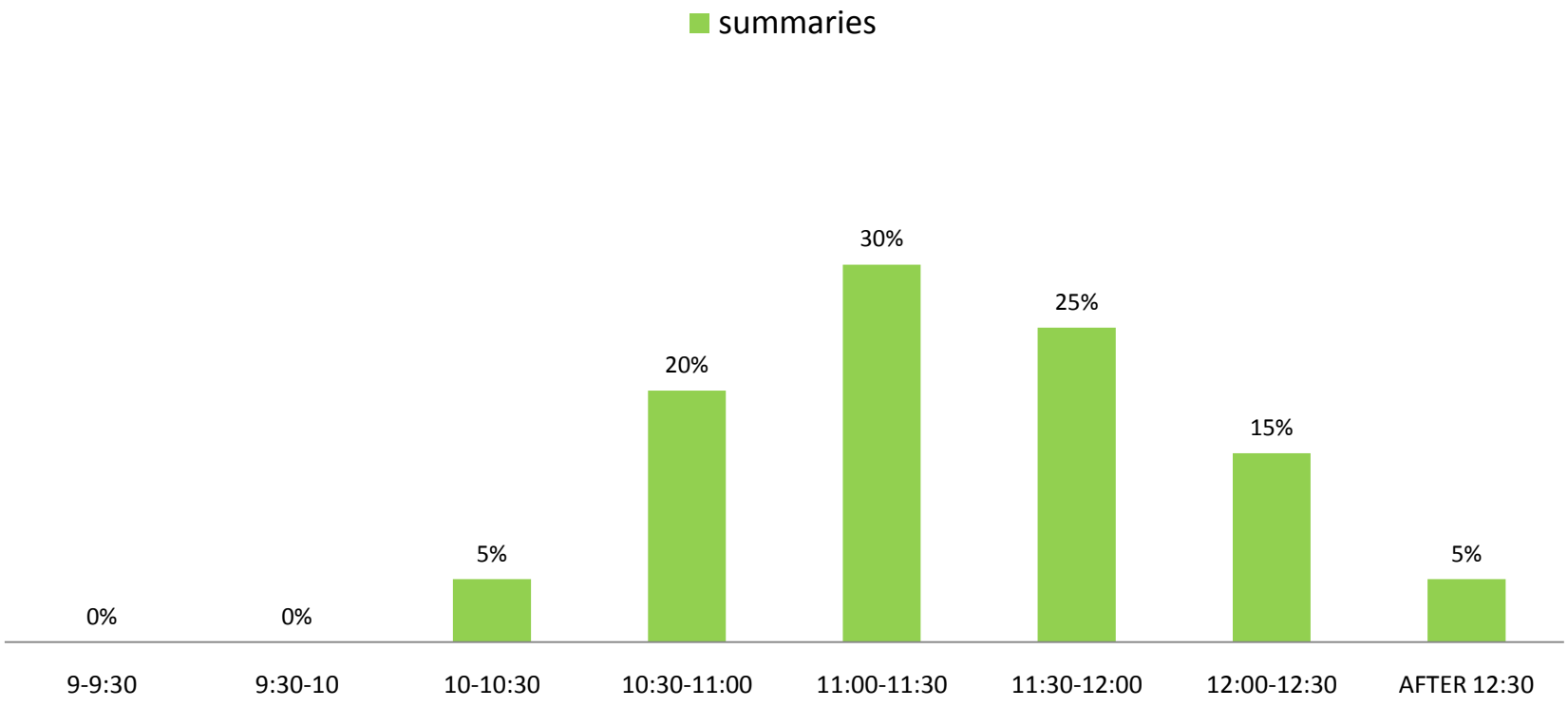
BILLING CARDS UPDATION IN DEPARTMENT



BILLING CARDS REACHING TO TPA



DISCHARGE SUMMARY REACHING TO TPA



IMPROVE

Recommendation

- Discharges should be planned by doctors 48hrs in advance to avoid same day preparation of summary and hurdles on same day of discharge and make discharge smooth.
- Same day diagnostic examinations of planned discharges should be avoided as far as possible. In the day of discharge order of echo , X-ray .CT SCAN or lab test should be avoided this causes delay in the discharge process
- The referrals should be avoided on the day of discharges…..referral on the day of discharge to other specialty for follow up or medicine note by other doctor this increases unnecessary delay in discharge and summary preparation
- Frequency of planned discharges should be more.
- Constant reminders (e-mail, SMSs) for correction in discharge summary to Consultants as they are always busy in OT or their OPD so constant reminder for their discharge patients should be given and .
- Consultant rounds to be finished by 10 am (if consultant takes round late then ultimately signing of discharge final report got delayed)
- Present strength of typists of typing pool is poor as compared to the workload. Therefore, number of typists should be increased.(1 typist for cardiology ,1 for cardiac surgery and 2 for multispecialty discharges with .unplanned summaries)

For Staff(Nursing, RMOs, Co-ordinators

- Initial Discharge summary to be prepared on day to day progress and compiled a night before discharge
- Rough case sheet to be corrected by the consultant and then sending it to typing pool simultaneously by which time motion can be reduced so that 5 to 10 papers will be saved.
- Pharmacy and billing clearance should be done by 10 am
- All cancellation of investigation and procedures which are pending should be done on day today basis because last day cancellation and searching of X-. Ray or CT reports

For Next to Kin-

- Patient relatives should be communicated one day prior.
- -morning at 10 am –Cash and TPA patients and
- -Evening reminders-All patients
- Packed Lunch for TPA.
- Provision of special seating arrangement for TPA and corporate patients
- Concept of discharge lounge for the patients
-
- Inter-Floor Competition –This improves the overall activities of a floor .
- -Discharge Process-Before 12 am
- "WALL OF FAME" concept in weekly basis.

For Cardiac cases

- medicine should be written one day prior by doctor and typed before the OT of concerned doctor for signing of reports

(Note – for cardiac cases PT-INR test ,sample should be given at 5 a.m.so that before rounds of consultant reports are ready if in case any deviation is present concerned nursing staff will inform consultant to decide their discharge)

PEDIATRIC CASES

- Discharge Summary Should be prepared before 10 A.M . Before starting pediatric wards rounds doctor writes their summaries by themselves so after taking morning rounds of all patients he start writing summaries so it causes delay.

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Recommendations Billing department

- Billing card should be updated on day to day basis.
- While shifting a patient from critical care areas to wards billing card and medicine card should be updated to avoid the cancellations on the day of discharge. All updated billing cards should reach to the billing dept. by 9 am and should be verified by the 10 am.(billing cards of the TPA patients should be given 1st priority)
- Prioritization of billing cards.
- All the coordinators of respective floors should call and get the follow up for their updated billing status from the billing dept. by **10 am**.
- Discharge list would be shared (**SHARED FOLDER**) day before discharge by 5 pm to initiate the billing update process.

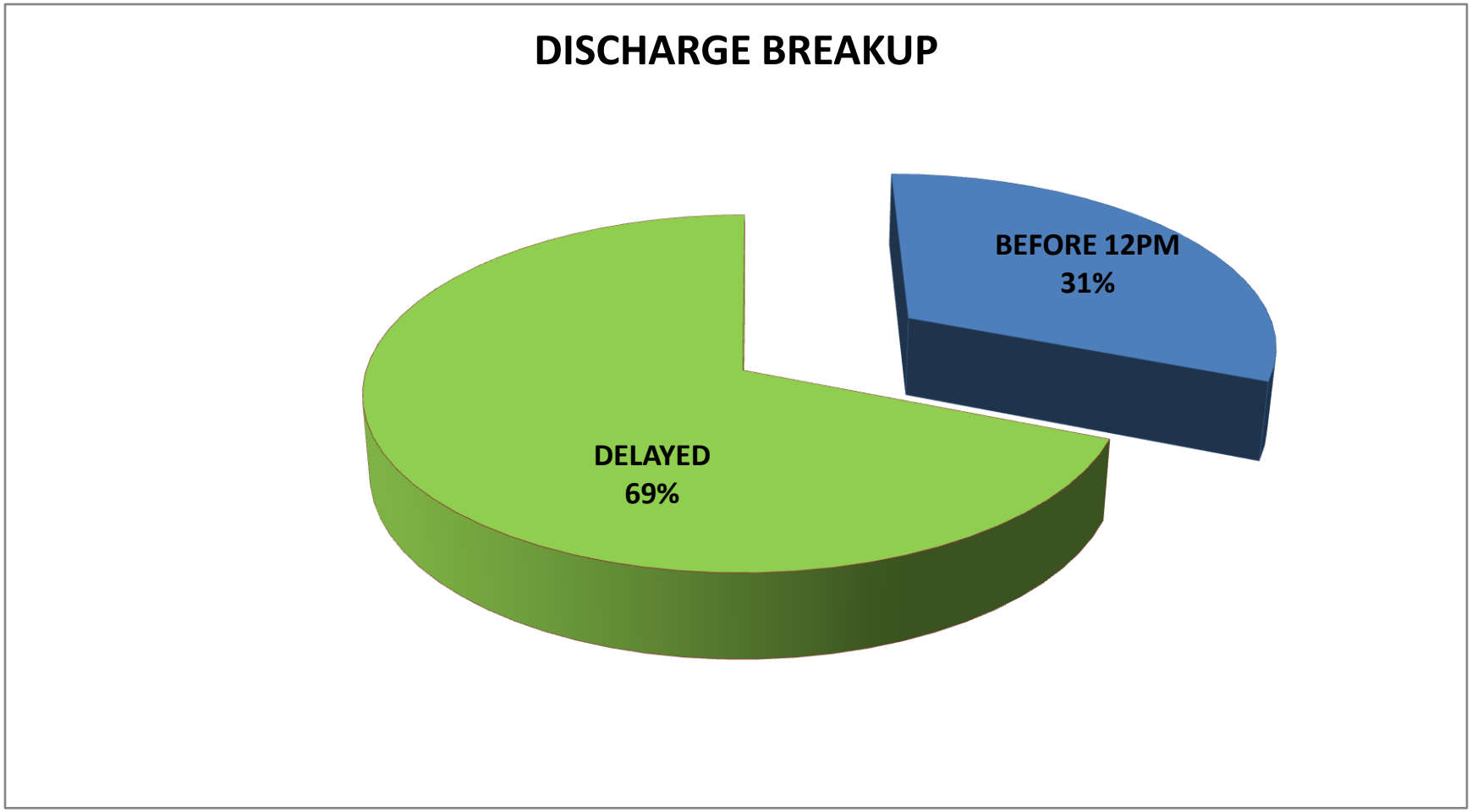
For management

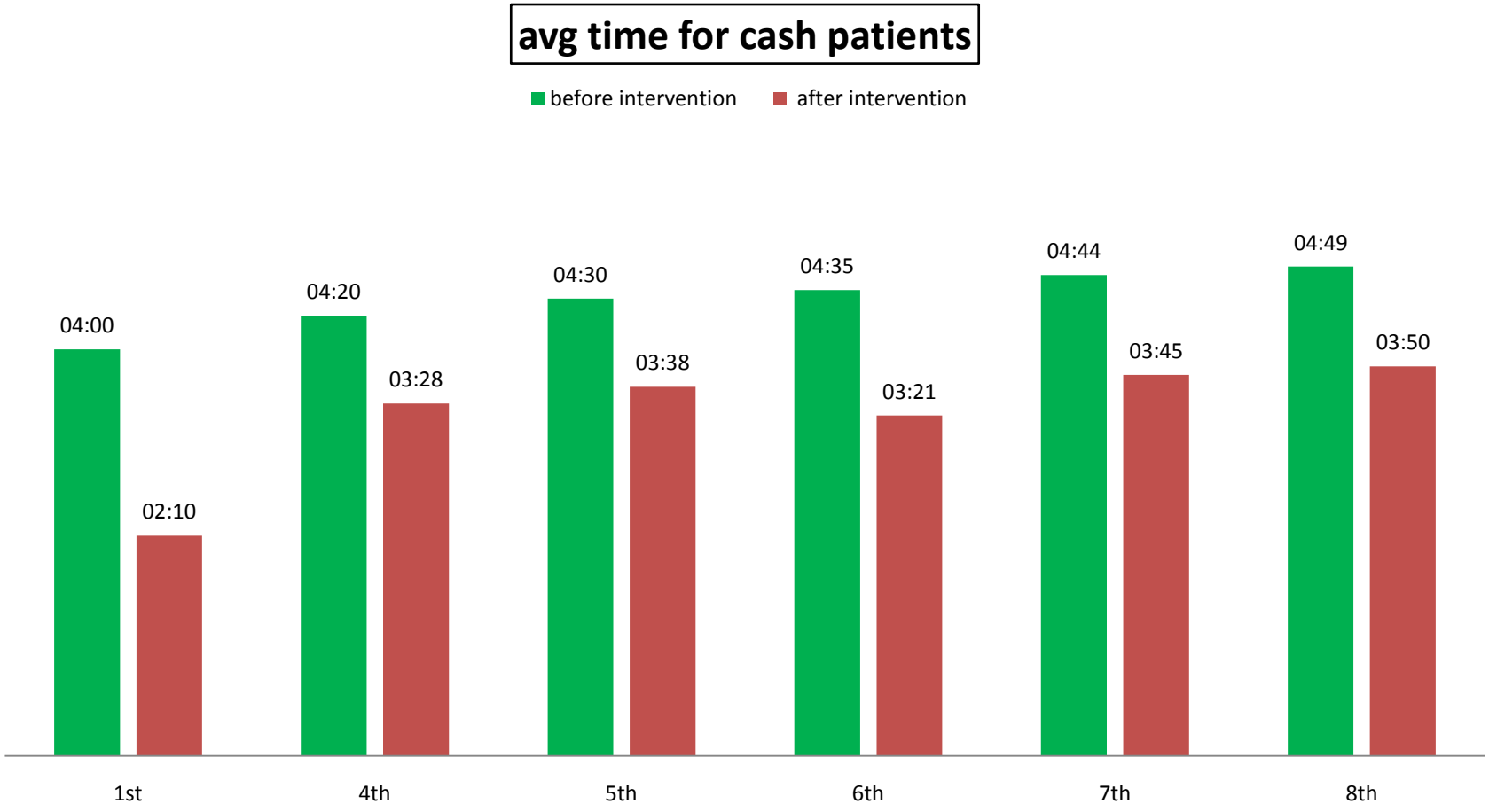
- To introduce “PATIENT TRACKER” system(**Patient** Tracking **Portal** was developed specifically for nurses and unit staff as a better way to quickly and comprehensively access patient information, easily perform patient flow tasks, and keep track of critical clinical patient information).
- Electronic medical records should be introduced

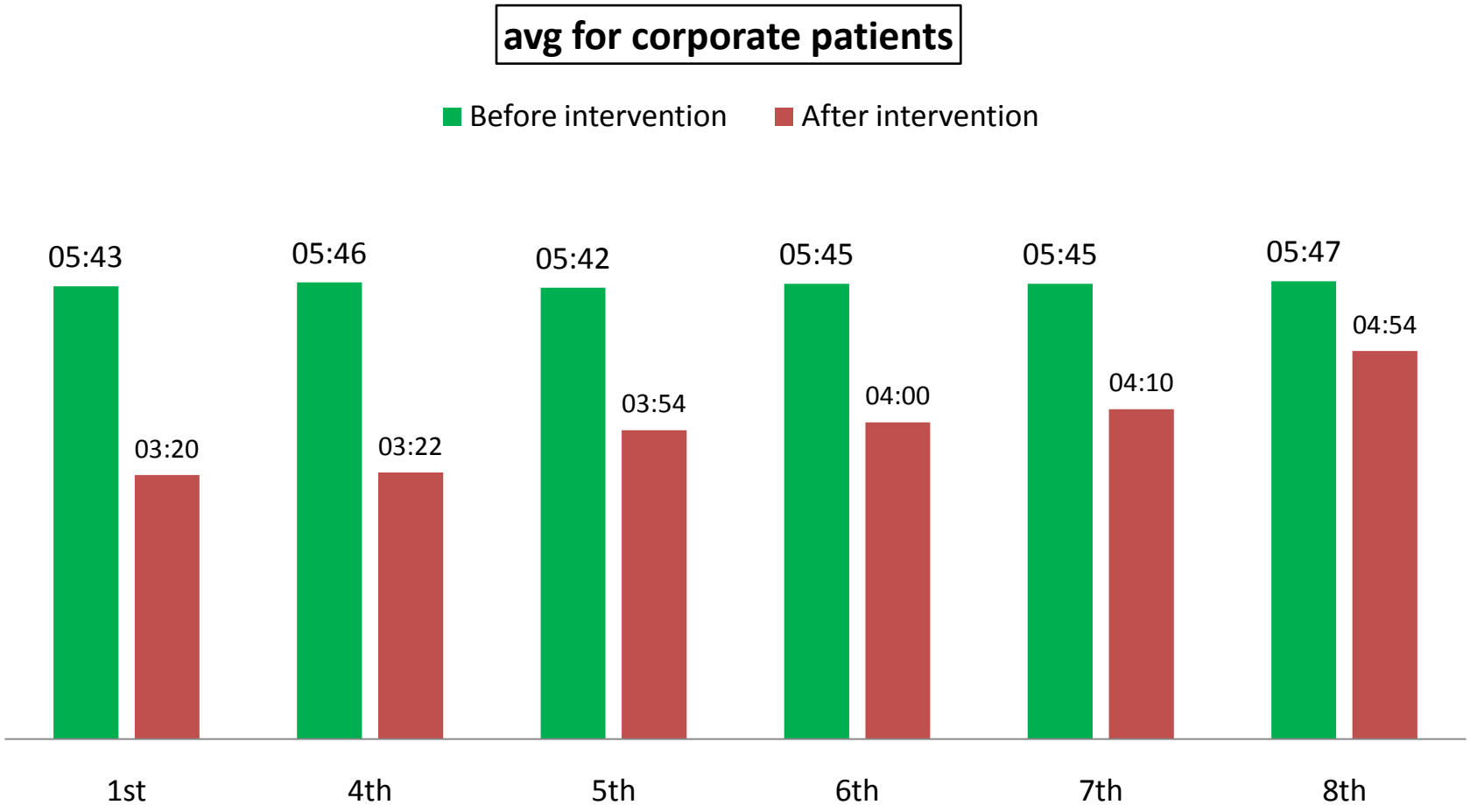
. **Recommendations for pharmacy**

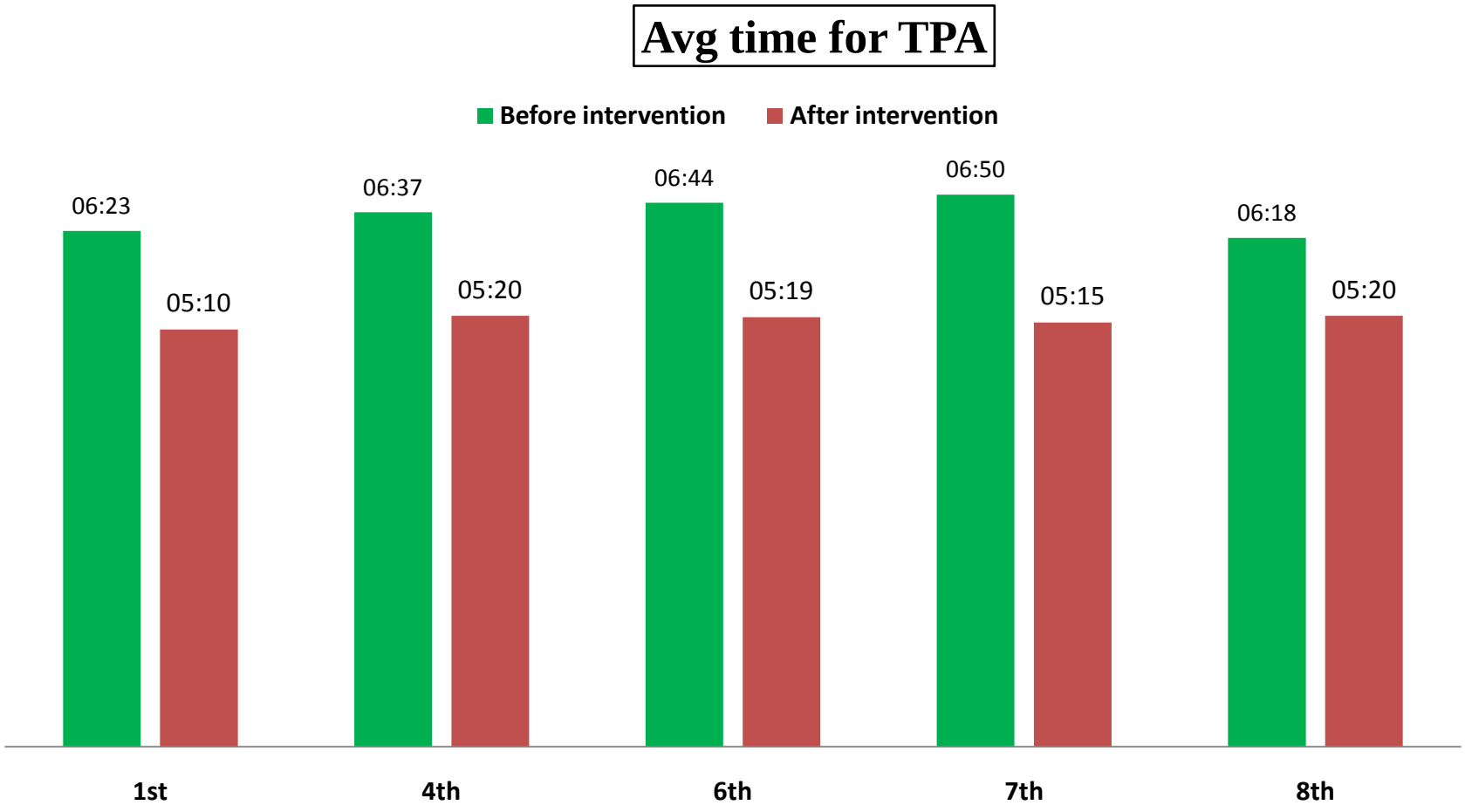
- The doctors have to write the final “medications at discharge” in the patient’s file during rounds a day prior to discharge
- Hence indenting of the required medicines can be done a day prior to discharge .thus there would be no dependency on the discharge summary for sending the pharmacy returns.
- The pharmacy returns should be processed a day prior to the actual discharge (keeping behind sufficient quantity of medicines that patient requires till his physical discharge) .

Post -Intervention

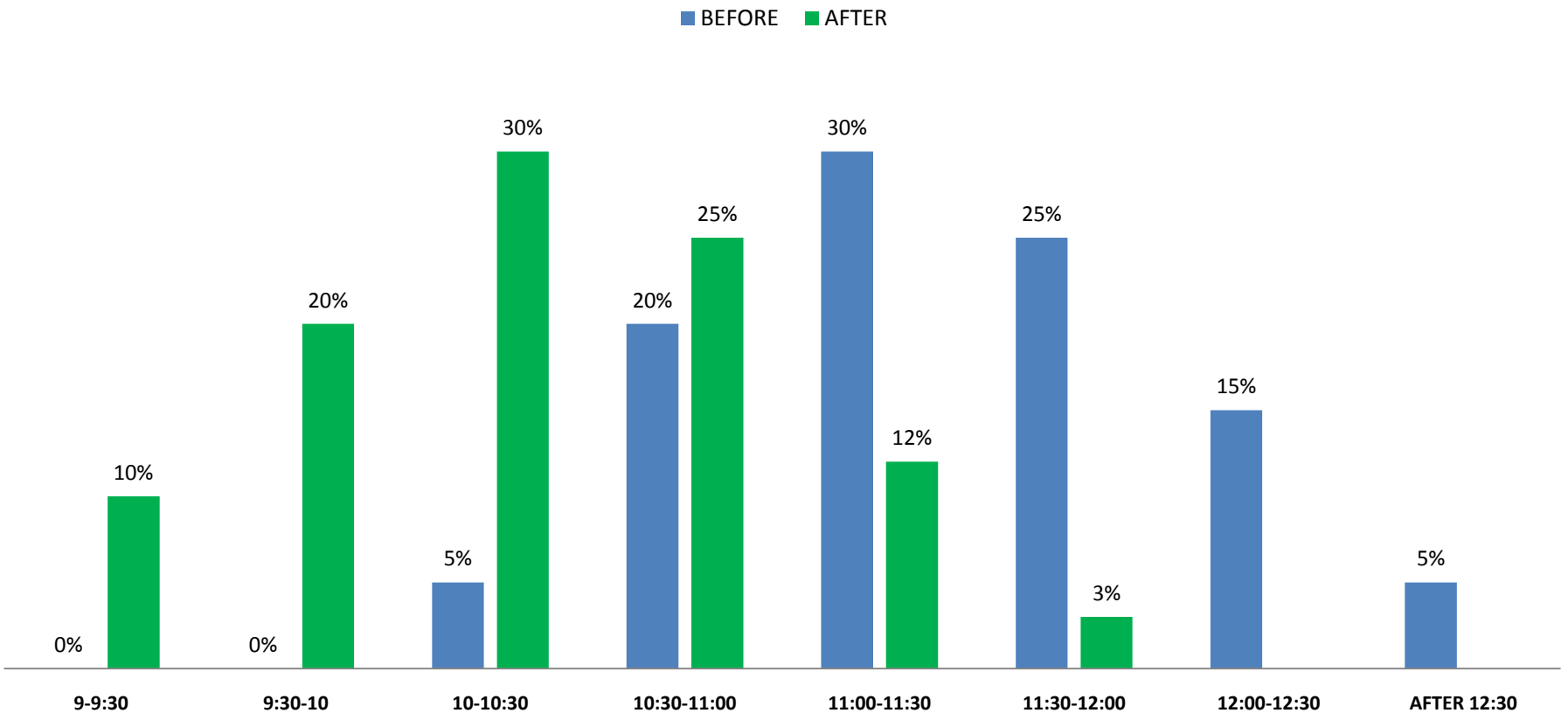



avg time for cash patients
before intervention
after intervention
04:00
02:10
04:20
03:28
04:30
03:38
04:35
03:21
04:44
03:45
04:49
03:50
1st
4th
5th
6th
7th
8th

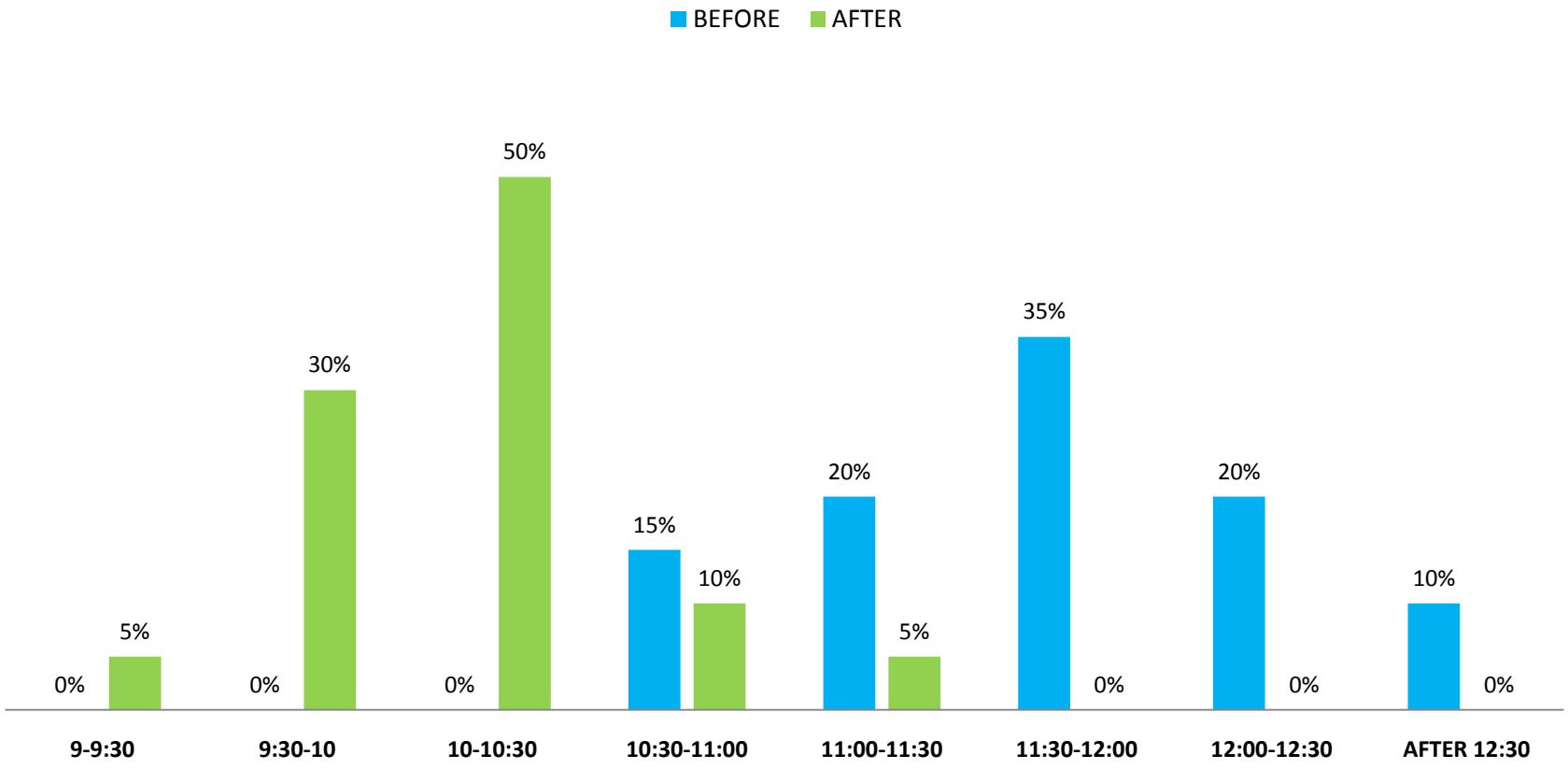

avg for corporate patients
Before intervention
After intervention
05:43
03:20
05:46
03:22
05:42
03:54
05:45
04:00
05:45
04:10
05:47
04:54
1st
4th
5th
6th
7th
8th


Avg time for TPA
Before intervention
After intervention
06:23
05:10
06:37
05:20
06:44
05:19
06:50
05:15
06:18
05:20
1st
4th
6th
7th
8th

DISCHARGE SUMMARY REACHING TIME TO TPA DESK



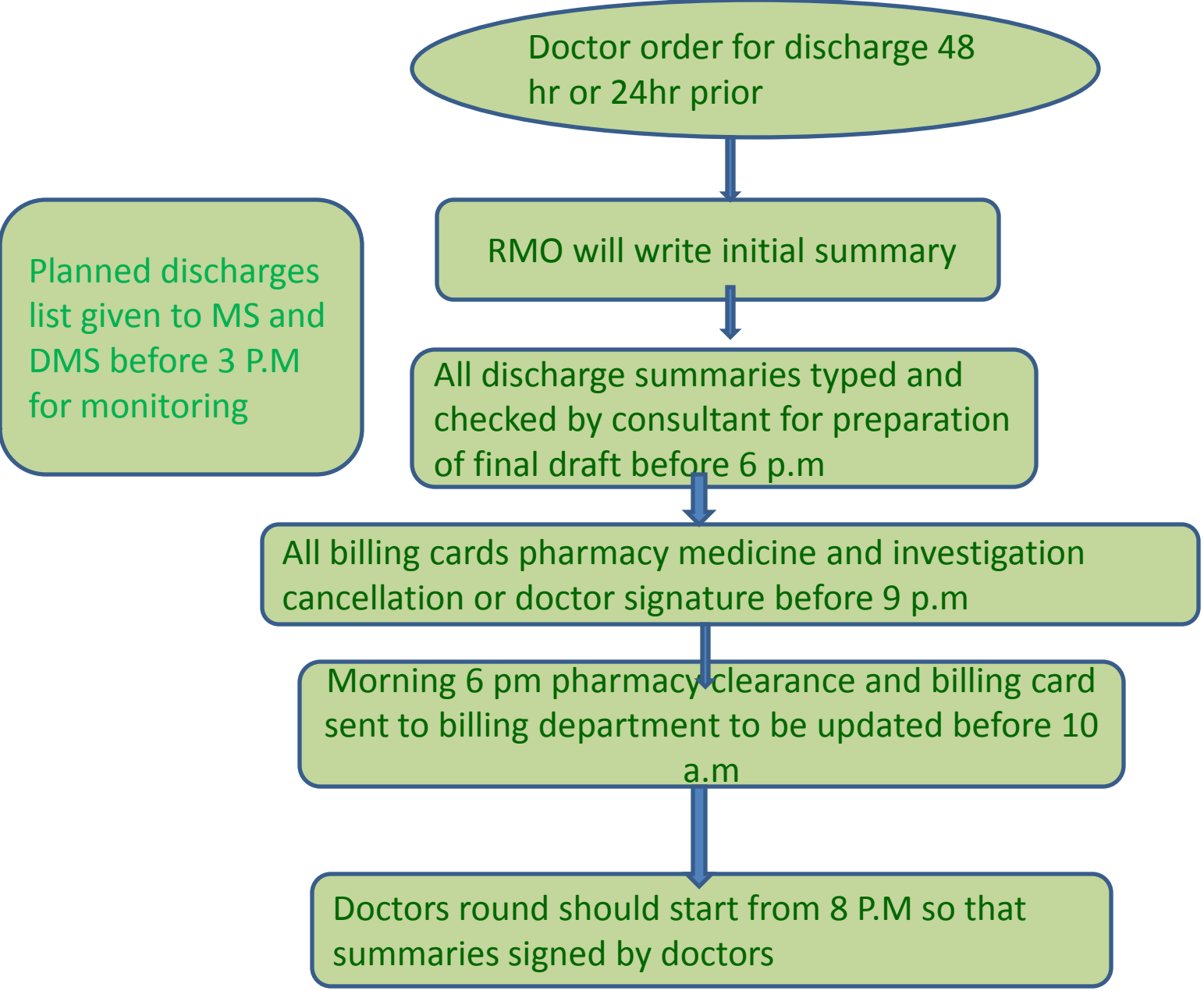
BILLING CARDS REACHING TO TPA

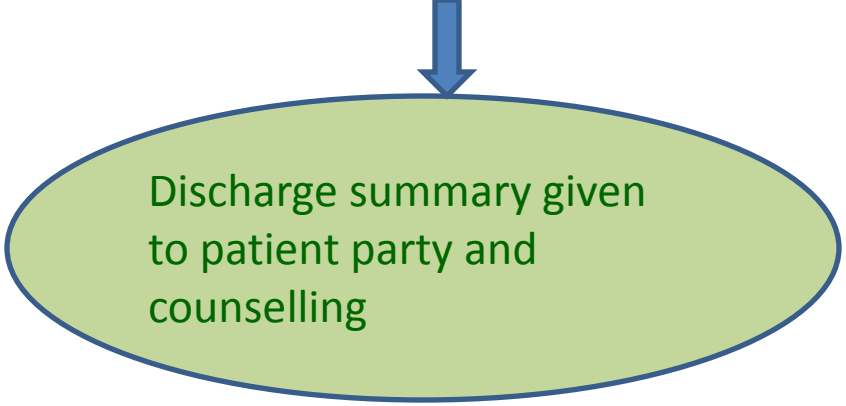


Control Phase-

The Recommendations Which Are Piloted, And Implemented During The Improve Phase Were Standardized, Confirmed And Institutionalized In The Control Phase. The Process Improvements Obtained During The Improve Phase Will Only Work If It Leads To Long Term Changes In Performance. A Control Plan And A Check List Was Made And Circulated Among The Process Owners Of The Patients Discharge Process In Each Department To Track Results And To Ensure The Improved Process Remains Improved Over Long Run

- Further To Control The Discharge Process For The **Patients We Introduced Sharing Folder Of Discharge Patients Which Is Visible To All Wards And Departments After The Order Of Discharge Of Patients It Is Updated By Me Two Times One At 2 P.M And Other At 6 P.M**
- I Worked As Discharge Co-ordinator To Facilitate Discharge Process In The Hospital By Identifying Loop Holes And Correcting Them Immediately
- Introduced Checklist For TPA To Facilitate Process More Fastly
- Weekly Wall Of Fame For Floors Performing Best In Discharge Process
- Patient Party Is Informed Two Times One Day Prior To Take His Patient Before 12AM And Other At Evening 6 P.M
- Billing Cards Are Made Ready Before 8 AM In Morning
- Updation And Cancellation Of Investigation Done One Prior
- List Of Discharge Patients Given To MS And DMS Office Before 3 P.M
- If Any Discharge Summary Not Repaired One Day Prior MS And DMS Takes Action Immediately And Get It Done By RMO As They Are Higher Authority To Control Over Rmo's
- If Consultant Gets Late To Sign Summary Or In OT Or Outreach Clinic For OPD Then MS DMS Takes Responsibility Of Discharge Of That Patients.


Doctor order for discharge 48 hr or 24hr prior
RMO will write initial summary
Planned discharges list given to MS and DMS before 3 P.M for monitoring
All discharge summaries typed and checked by consultant for preparation of final draft before 6 p.m
All billing cards pharmacy medicine and investigation cancellation or doctor signature before 9 p.m
Morning 6 pm pharmacy clearance and billing card sent to billing department to be updated before 10 a.m
Doctors round should start from 8 P.M so that summaries signed by doctors


Discharge summary given to patient party and counselling

Conclusion

- This study validated the application of Six Sigma DMAIC methods to reduce and optimize the patients discharge process and **on average there was decrease in the 4 hours to 2 hours for cash patients and 5hr to 4 hr for corporate patients and 6 to 5 hr for TPA patients As result of this breakthrough improvement**, more patients will be managed in the particular department which indirectly increase the number of admissions, turnover of the rooms, increase hospital profitability and will also enhance Patient satisfaction.


THANK
YOU