DISSERTATION TITLE

"STUDY ON DISCHARGE PROCESS AT RAJIV GANDHI CANCER INSTITURE & RESEARCH CENTRE"

A Dissertation submitted in partial fulfillment of the requirements for the award of

Post Graduate Diploma in Health and Hospital Management (2010-2012)

BY

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ACKNOWLEDGEMENT

Nothing in this world happen single handed. It is the collective efforts of many people who put in together to set the things done, so does this project work.

It will be completely unrealistic, if I do not acknowledge the persons who have directly or indirectly helped me a smooth sail through my undertaking. Hence I take up my nerves to utter a word of thanks to all those whose sincere advice made my project really educational and pleasurable.

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Finally I wish to express my sincere appreciation & heartfelt thanks to all respondents and RGCI staff for having spent their valuable time to provide me with important inputs. It is their cooperation that has made this project a reality.

ABSTRACT

INTRODUCTION: As the final step in the hospital experience, the **Discharge Process** is likely to be well remembered by the patient. Therefore, Discharge process is a critical bottleneck for efficient patient flow which translates into a reduction in effective bed capacity and admission process delays. Patients can also be diverted to other hospitals in turn leading to major patient/family dissatisfaction, loss of hospital revenue and loss of competitive edge.
To better understand this contested concept, this study provides a brief description of the historical accounts that framed the emergence of delayed hospital discharges as a phenomenon. Finally, this study tries to bring out that the presence of hospital delays in a health system tends to be considered as an indicator of two possible system inefficiencies: a failure in the discharge planning process, which generally blames social services departments for not ensuring timely services, or a shortage of alternative forms of care for this group of patients.

METHODOLOGY: The study uses DMAIC Principle to highlight the Discharge Process at RGCI. Excel Sheet checklist has been used for data collection throughout the study. Various Quality tools have also been applied to highlight the major findings and give suitable recommendations such as- Process Mapping, Root Cause Analysis (RCA) & Healthcare Failure Mode Effect Analysis (HFMEA).

CONCLUSION: Delayed Discharge process leads to unnecessary bed occupancy, thus affecting both, the existing patients to be discharged and the new admissions in the hospital thereby putting undue pressure on the already strained resources of the hospital. Thus, the study details out the essential aspects of the discharge process, identify sources of errors that can impact on outcomes and give recommendations to re-engineer the same for improved efficiency. Considerable improvement has been noticed while comparing the Case & Control Phases.

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PART -A

INTERNSHIP REPORT

ABOUT RGCI

RGCI & RC - A Unit of Indraprastha Cancer Society

Indraprastha Cancer Society & Research Centre is a non-profit public society managed by a group of socially responsible, selfless, philanthropists. Society was formed in the year 1994 under the society's registration act, 1860. Besides patient care, one of the main objectives of the society is to study and undertake scientific research on all aspects of patient care, and in particular to investigate its incidence, prevalence, distribution, cause, symptoms and to promote its cure.

Rajiv Gandhi Cancer Institute & Research Centre is the Visionary Project of Indraprastha Cancer Society & Research Centre aimed at providing the best of Oncological Care to those who need it. At the apex level is the Governing Council, for governance & the Management Committee, for managing affairs of the institute.

The institute started functioning on 1st July, 1996 when a soft opening was done by Hon'ble Smt. Sonia Gandhi. However, it was formally inaugrated by the then, President of India, Dr. Shankar Dayal Sharma, in the presence of Smt. Sonia Gandhi and other dignitaries, on 20th August,1996.

Initiated as a 152 bedded hospital, it has been growing steadily and has never looked back. Presently it is a 241 bedded hospital, with state of the art facility for the diagnosis and treatment of cancer and is recognized as one of the premium Institutes not only in northern India but also in the entire country.

The philosophy of RGCI & RC is to constantly strive towards, excellence in onco-care through combination of latest technology, competent personnel and a humane touch. This is reflected by the addition of Bone Marrow transplant unit in the year 2000 IMRT (Intensity Modulated

Radiotherapy Technique) & Colour Doppler techniques in the year 2002.

In cancer diagnosis, the institute has installed a 40 a sliced advance PET-CT in the year 2007. In the same year, a 1.5 Tesla MRI with dedicated technology for cancer specific diagnosis was also installed. Dexa Scan & PFT services have been commissioned from 2008-09.

The institute has now commissioned, two state of the art Image Guided Radiation Therapy (IGRT) units. The latest addition in the technology upgradation is the Da Vinci, state-of-the-art, Robotic surgical equipment, the first of its kind in an exclusive cancer hospital, in India.

Ashray, a hostel has been built about 200metres away from the main hospital building to cater to the lodging and boarding requirements of the relatives of the patients, seeking treatment in RGCI & RC from outside Delhi

Our Logo

The philosophy behind the logo of Rajiv Gandhi Cancer Institute & Research Centre is symbolic of the crab representing cancer. The crab has been universally accepted as a symbol of cancer – the deadly disease. Encased in a shield with a sword piercing through it is graphically symbolic of a dreadful disease being kept at bay with the help of a shield as self protection and the swords as a weapon to destroy the enemy.

Vision

To establish an Oncological Institution of International excellence providing facilities for Cancer Diagnosis, Treatment, Education, Training and Research based upon ethical, scientific, professional principles following the latest management trends particularly in the field of quality and environment.

Mission

To update the Institutional facilities in line with the updated global modernization scenario to ensure that the best in Oncology can be delivered to maximum possible population in the most cost efficient manner. To achieve this goal by establishing up to maximum of 400 beds in the present campus and by outreach programs through satellite centers with collaborations and affiliation with centre of repute and through telemedicine network.

Values

Rajiv Gandhi Cancer Institute & Research Centre always holds it patients, who come for diagnostic and therapeutic treatment, in high esteem. It also encourages teamwork, mutual respect and trust among the management, consultants, residents doctor, medical and para-medical, and the staff of supportive services. Transparency, proper diagnosis, proper treatment and correct advice, to the patients, are the hallmarks of this institute.

Quality policy

We are committed to provide reliable and internationally compatible diagnostic and therapeutic services related to the field of Oncology to our patients to participate & society at large.

We are committed to continually improve the quality of diagnostic services, therapeutic services and environmental performance through up-gradation and acquisition of environmentally activities on the environment, prevent pollution and comply with all applicable environmental legislation and regulation.

We shall continuously review our performance to ensure service provisioning in humane and congenial environment by motivating, training and involving employees at all levels **TO DO THINGS RIGHT FIRST TIME, EVERY TIME AND WITH EMPATHY**

Facilities offered

1. Multispeciality Clinic/ Tumor Board
2. Surgical Oncology
3. Uro & Gynae Oncology
4. Radiation Oncology
5. Medical Oncology
6. Pediatric Hematology & Oncology
7. Bone Marrow Transplantation
8. Intensive Care Unit (ICU)
9. Physiotherapy
10. Radiology Department
11. Department of Laboratory services
12. Department of Nuclear Medicine
13. Anaesthesiology & Pain Management
14. Preventive Oncology
15. Telemedicine

Transplant at RGCI

Rajiv Gandhi cancer institute has a 4 bedded, HEPA filtered transplant unit and a dedicated team of renowned transplant specialists and hemato-oncologists. Bone marrow transplant programme started in RGCI in 2001 and since then more than 100 transplants has been performed placing RGCI among leading transplant centers in India. Here, cost of a transplant has been very affordable as compared to other private sector hospitals. A large chunk of patients come from neighboring countries and overall results of transplant have been at par with international standards. Diseases for which transplant has been done includes-

Non-malignant conditions:

- Aplastic anemia

- Thalassaemia major

Malignant conditions:

- Multiple Myeloma (MM)
- Non-hodgkins and Hodgkin's lymphoma
- Acute myeloid leukemia (AML)
- Acute lymphoblastic leukemia (ALL)
- Chronic myeloid leukemia (CML)

Research

Cancer is a non-communicable disease and major cause of death around the world. Each year it affects the lives of so many people and profoundly impacts the lives of millions. One of every two men and one out of three women will get cancer in their lifetimes. Research helps to identify the causes of cancer and points the way to improved methods of early detection, prevention and treatment. Cancer research ranges from epidemiology, molecular bioscience to the performance of clinical trials to evaluate and compare applications of the various cancer treatments.

Rajiv Gandhi cancer Institute & Research Center (RGCI&RC) provides comprehensive cancer care with compassion. Research is an important focus at RGCI&RC. The Institute is recognized as a Scientific & Industrial Research Organization (SIRO) by the Department of Science & Technology, Government of India. The investigations of the Institute range from clinical trials, which test the safety and efficacy of new treatments, to translational research, which acts as a bridge between discoveries made in the laboratory and those made in the clinic, to statistical and computational research focused analyzing and interpreting biomedical data.

To augment the research activities of the Institute, the Research Department was established in the year 2005 to support the scientists and the clinicians of the Institute in conducting various types of research. This research helps in the improvement of diagnosis and treatment of patients.

Vision

Integrate basic, clinical and translational research for better chemoprevention, early diagnosis,

prognosis and therapy of cancer

Objectives

- To conduct research into the causes, prevention, diagnosis and methods of cancer treatment and develop strategies.
- To develop, coordinate and stimulate translational and clinical research to improve the management of cancer and related problems.
- To uncover the underlying mechanisms of basic molecular and cell biology to underpin the identification of new strategies for cancer therapeutics.
- To undertake multidisciplinary studies involving epidemiological, behavioral, clinical, biochemical, and molecular biological aspects to understand the natural history, biological behavior and mechanisms of carcinogenesis.

DEPARTMENTAL OVERVIEW

Inpatient" means that the procedure requires the patient to be admitted to the hospital, primarily so that he or she can be closely monitored during the procedure and afterwards, during recovery. An **inpatient** is "admitted" to the hospital and stays overnight or for an indeterminate time, usually several days or weeks.

All the patient occupancy areas are well lit and ventilated, and equipped with Pipe Line Oxygen, Central Suction etc. to minimize patient discomfort and for the immediate availability of the life saving systems. A quality service from the nurses is available round the clock.

Basic services including breakfast, lunch, evening tea and dinner are provided. Provision of special diet for patients like Diabetic, Neutropenic etc is available. An attendant is allowed to stay only with private room patients, but in general wards the attendants are discouraged to stay except in case of pediatric patients. There is a visiting hour to in patient department. Every patient is given one attendant pass.

- ❖ Children below the age of 12 are not allowed to visit the patients.

- Visitors are allowed only at the notified Visiting Hours:
  - Wards- 4:00Pm to 5:00Pm
  - ICU- 8:00Am to 9:00Am & 5:00Pm to 6:00Pm

Professional care is provided to the patients round the clock by the team of doctors, dedicated nursing staff and other supporting staff.

Bed distribution in the IPD Area:

FLOOR	BLOCK	WARD SECRETARY	ROOM NO	NO OF BEDS	CATEGORY	M/F/PAED
1ST	A	KAVITA-35	101,102	2BEDS/ROOM	SP	.
			107,108	2BEDS/ROOM	SP	.
			115	6	GW	.
			105,106	6BEDS/ROOM	GW	.
			109-114	1BEDS/ROOM	P	.
			118-121	1BEDS/ROOM	P	.
2ND	A	NAMITA-36	205	6	GW	M
			206	10	GW	F
			208	7	GW	M/F
			209	5	GW	M
			210	5	GW	M
			211	1	P	.
			212	1	P	.
			213	1	P	.
2ND	A-PAED	NEHA-34	201	6	GW	PAED
			202	1	P	.
			203	1	P	.
			204	1	P	.
			214	10	GW	PAED+F
			215	7	GW	M

			216	8	GW	F
2ND	B	AMAN-29	251	3	GW	.
			252	3	GW	.
			253	3	GW	.
			254	3	GW	.
			255	6	GW	.
			256	2	SP	.
			257	2	SP	.
			258	2	SP	.
			259	2	SP	.
			260	1	THY	.
			261	1	THY	.
			262	1	THY	.
2ND	C	NEERU-21	2271-2283	13	ES	M
			2284-2291	8	ES	F
3RD	C	VAISHALI(2351-2374)-56	2351-2362	2BEDS/ROOM	SPD	.
			2363	4	GW	.
			2364	3	ES	.
			2365	3	ES	.
			2366	3	ES	.
			2372	3	ES	.
			2373	3	ES	.
			2374	3	ES	.
			2367	2	SPD	.
			2368	2	SPD	.
			2369	2	SDP	.
			2370	2	SDP	.
			2371	2	SDP	.
4TH	C	ANKUR(2451-2474)-26	2451-2462	2 BEDS/ROOM	SPD	.
			2463	1	DS	.
			2464-2474	1	D	.

Staffing of Inpatient Department

Nursing Ratio ICU's	1: 2 (24 Hrs)
Nursing Ratio Wards	1: 6 (24 Hrs)
Nursing Ratio Deluxe/Suites	1: 4 (24 Hrs)
IPD coordinator	1 (9:00Am-5:30Pm)
Ward Secretary	1-each counter (9:00Am-5:30Pm)
Nursing In-charge	1-Morning/Eve/Night (each floor)
3-5 Housekeeping Boys	Morning/Eve (each nursing counter)
3-5 GDA, (Male & Female)	Morning/Eve (Night only 1)-each counter
One Housekeeping supervisor	1- each floor
AMS (Admin.)	1- Night.
Medical Officer	1 (24 Hrs)
Anesthetist (on call)	24 Hrs.
Relation Officers	1 (9:00Am-5:30Pm)

TASKS PERFORMED

1. Orientation to different departments in RGCI & RC and make note of details regarding- Process flow, Manpower, Roles of Manager, Discrepancies(if any) and Recommendations(if any), such as-

- Clinical Departments
    - Wards
    - ICU- Medical & Surgical

- Minor OT
- Operating Department with 8 OT's
- OPD's- Medical, Surgical, Radiation
- Raiology
- Laboratory
- Radiotherapy
- Nuclear Medicine
- Pharmacy- IP & OP

- Non Clinical Departments:
  - Front Office Registration and Admissions Desk
  - Medical Records Department
  - Bio Medical Engineering
  - Human Resources
  - Billing- Out Patient & In Patient
  - Materials & Purchase
  - Mortuary
  - IT
  - Legal Cell
  - Quality
- Support Services:
  - Dietary
  - Housekeeping
  - Laundry
  - CSSD
  - Security

2. Interaction with Ward secretaries and Nursing In – charges as regards to patient discharge and monitor & record of the same on under – mentioned sub heads :-

- Discharge decision with timings.
- Discharge summary preparation, its timeliness and improvement if any.
- Adherence to benchmark / discharge timings
- Monitor of discharge timings from discharge decision to departure of patient.

- Co-ordination with Quality Cell to provide patient discharge timing analysis.

3. To monitor Housekeeping services in patient care including Biomedical Waste clearance from patient care areas.
4. To look into staff discipline – personal tidiness & turnout etc. Of the operation staff.
5. Any other patient care and operation aspects so assigned.

REFLECTIVE LEARNING:

- Effective discharge management is when both individual and staff are satisfied knowing that adequate plans have been made for discharge, with the outcome of the individual's discharge taking place without unforeseen difficulties.
- Learning about Improving balance between bed supply and demand during peak demand hours
- Man power management
- Coordination between different departments (nursing, typing & Housekeeping etc.)
- Waste Management
- To streamline the Discharge process of hospitals through customer focus and optimum utilization of the resources.
- Customers' satisfaction is the main factor. A new and more effective method has to be adopted to ensure customers' satisfaction.

PART -B

DISSERTATION REPORT

ABBREVIATIONS

1) IPD	In Patient Department
2) OPD	Out Patient Department
3) ICU	Intensive Care Unit
4) OT	Operation Theater
5) GDA	General Duty Assistant
6) ICU	Intensive Care Unit
7) MRD	Medical Record Department
8) CA	Carcinoma
9) RCA	Root Cause Analysis
10) HFMEA	Healthcare Failure Mode Effect Analysis
11) TAT	Turn Around Time
12) HIS	Hospital Information System
13) RPN	Risk Priority Number
14) PICC Line	Peripheral In Situ Central Catheter
15) DMAIC	Define Measure Analyze Improve Control

GLOSSARY OF TERMS

1) **Discharge process** - Is the point at which the patient leaves the hospital and either returns home or is transferred to another facility such as one for rehabilitation or to a nursing home.
2) **Discharge planning** - Is a service that considers the patient's needs after the hospital stay, and may involve various services such as nursing care, physiotherapy, and other services.
3) **Planned discharges** -The treating physician after evaluating the patient plans for discharge either at the time of admission or during admission or a day before discharge date and communicates it to the sister.
4) **Unplanned discharges** - Due to patient's uncertain condition, discharge cannot be planned and thus is not communicated to sister.
5) **Six Sigma Study** - Is a management strategy that seeks to identify and remove the **causes of defects and errors** in service delivery and/or processes and helps to achieve uniform results.
6) **Cash Patients** – Patients who make payment in cash for bill settlement.
7) **Credit Patients** – Patients whose organizations are empanelled with RGCI and avail cashless hospitalization for the approved amount.
8) **Timely Discharges** – Discharges that have Turn Around Time of or less than 4 Hrs (cash patients) & TAT of or less than 5 Hrs (credit patients).
9) **Delayed Discharges** – Discharges that have TAT of more than 4Hrs for Cash patients & TAT of more than 5Hrs for Credit patients.
10) **Total Discharge TAT** – Difference b/w the time when patient leaves the hospital & Doctor's morning rounds time.
11) **Total Summary TAT** – Difference b/w the time when D/s Summary is sent to ward & the time when pt file was received at summary room from ward for summary preparation.
12) **Total Billing TAT** – Difference b/w the time when patient shows final bill receipt to ward secretary at respective nursing counter & the time when patient file was sent to Billing dept for final bill settlement.

13) **Total Pharmacy TAT –** Difference b/w the time when discharge medicines are received at ward & the time when prescription containing discharge medicines was sent to IP Pharmacy.

14) **Total Bed Vacation TAT –** Difference b/w the time when patient vacates the room/bed & the time when patient settles final bill.

15) **Bed Cleaning TAT –** Difference b/w the time at which bed/room is ready for next admission & the time at which previous patient vacates the bed/room.

16) **System Discharge –** Difference b/w the time of final bill settlement & morning rounds of doctors.

17) **Physical Discharge –** Difference b/w the time of bed/room vacation by the patient & morning rounds of doctors.

INTRODUCTION

Discharge process is the point at which the patient leaves the hospital and either returns home or is transferred to another facility such as one for rehabilitation or to a nursing home.

Discharge planning is a service that considers the patient's needs after the hospital stay, and may involve various services such as nursing care, physiotherapy, and other services. In general, the basics of a discharge plan are:

- **Evaluation** of the patient by qualified personnel
- **Discussion** with the patient or his representative
- **Planning** for homecoming or transfer to another care facility
- **Determining** if caregiver training or other support is needed
- **Referrals** to home care agency and/or appropriate support organizations in the community
- **Arranging** for follow-up appointments or tests.

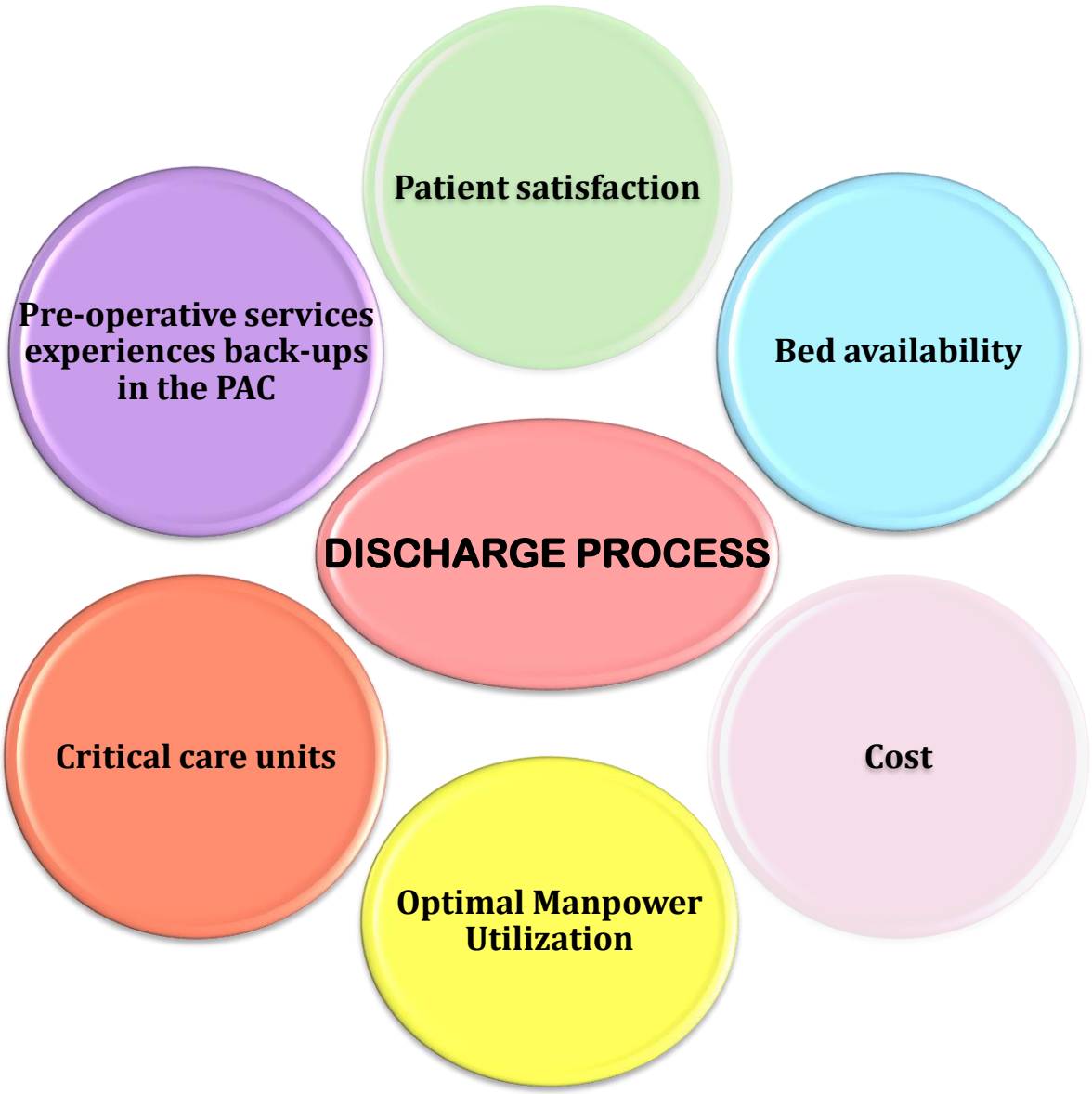
Hospitalization is often a short-term event, so planning for discharge begins shortly after admission. The physicians, nurses, and support services involved in a patient's care are part of an assessment team that keeps in mind the patient's pre-admission level of functioning, and whether the patient will be able to return home following the current hospital admission. Information that could affect the discharge plan is noted in the patient's medical record so that it is taken into account when discharge is being scheduled.

Types of discharges:-

1. Planned discharges- The treating physician after evaluating the patient plans for discharge either at the time of admission or during admission or before the day of discharge and communicates it to the sister.
2. Unplanned discharges- Due to patient’s uncertain condition, discharge cannot be planned and thus is not communicated to sister.

IMPACT OF DISCHARGE PROCESS

The discharge process is a critical bottleneck for efficient patient flow. Slow or unpredictable discharge translates into a reduction in effective bed capacity and admission process delays. Sound admission and discharge processes are essential for quality health care delivery and are one of the important areas of practice that requires constant review, evaluation and development to keep abreast with the constantly changing demands of health care delivery.



The discharge process can have an impact on:

1. Patient satisfaction & safety
2. Bed availability
3. Cost
4. Optimal Manpower Utilization
5. Critical care units
6. Pre-operative services experiences back-ups in the PAC
7. Staff complaints and turnover
8. Reduced admissions and referrals resulting from physician dissatisfaction
9. Bad press and community relations

In effect, discharge delays create an upstream tidal wave of patient flow constraints which negatively impacts patient satisfaction, safety, hospital capacity, and financial performance.

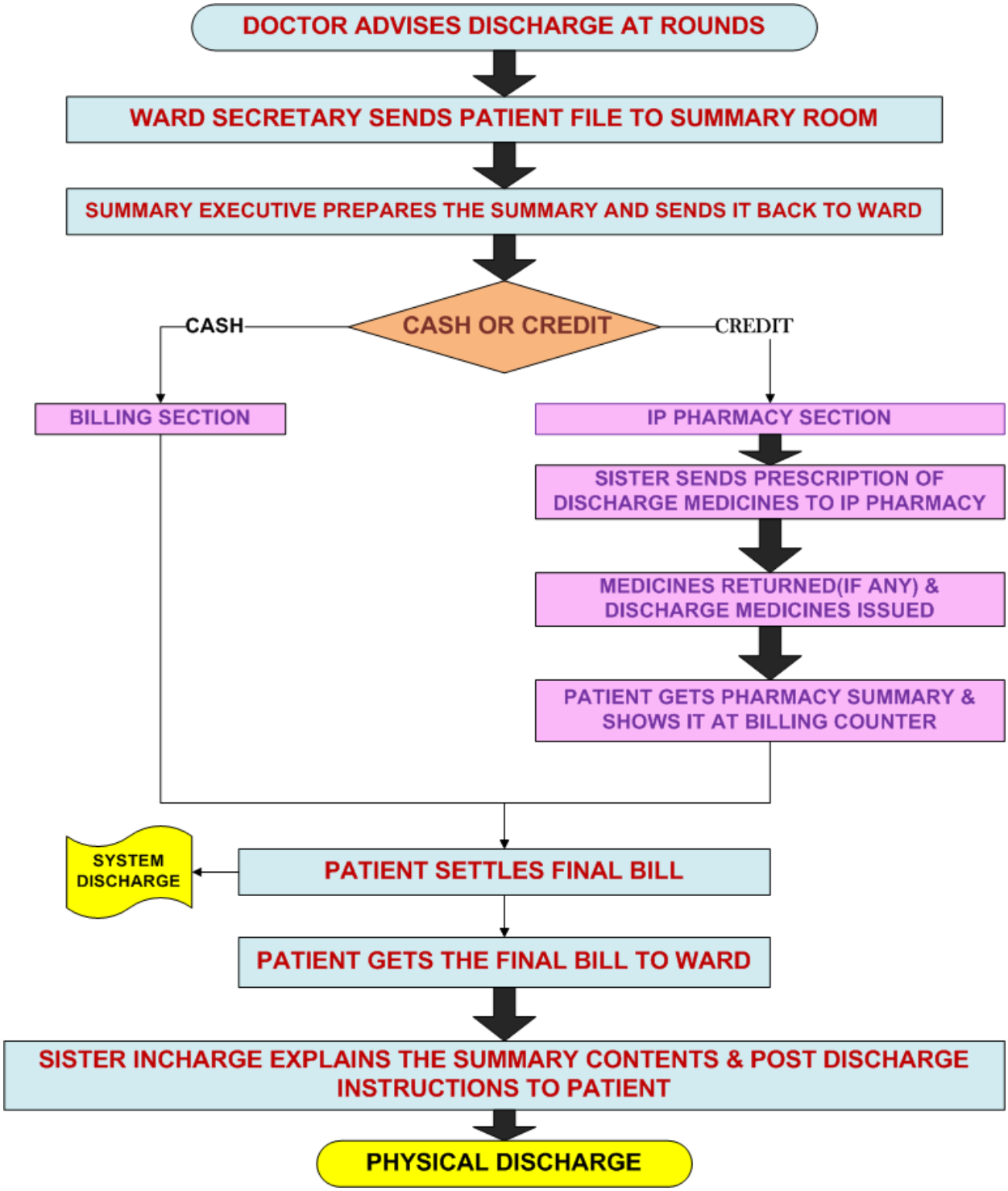
COMPONENTS OF THE EFFECTIVE DISCHARGE PROCESS

"Discharge does not begin on the day a decision is made to send a patient home. It is not a single event".

Effective discharge planning begins prior to admission for planned admissions and upon admission for unplanned admissions. It ideally comprises of four stages:

1. Assessment of patient physiological, psychological, social and cultural needs.
2. Development of a care plan, based upon the presenting condition, physician order set, severity of illness or injury, and intensity of services required.
3. Implementation of plan-- arranging for the provision of services, including patient/family education and referrals.
4. Follow-up post-discharge and evaluation of the effectiveness of the discharge strategies.

DISCHARGE PROCESS AT RGCI



Decision regarding discharging the patient rests with the primary Treating consultant of the patient who makes such decision during his rounds, either planned or unplanned and the same is communicated to the

- Patient
- Patients relatives
- Ward secretary
- The concerned ward nursing staff
- Duty medical officer

The discharge process is planned in consultation with the patient and family. However the final decision regarding discharge is made on the basis of the condition of the patient during next day morning rounds. The discharge policies and procedures are documented to ensure coordination amongst various departments including accounts so that the discharge papers are completed within time. For MLC cases the hospital shall ensure that the police is informed.

1.1 Preparation of Discharge Summary

After final decision to discharge the patient is taken, the Treating consultant / Resident doctor prepares tentative discharge summary of the patient. This discharge summary is made final after the decision is made by the consultant. Discharge summary is provided to all the patients treated in the hospital at the time of discharge. The content of discharge summary varies from doctor to doctor and contain elements such as:

- Contents :
    - Reasons for admission
    - Clinical profile (salient features and present history and examination) or significant findings
    - Investigations performed and summarized information about the results of the investigations
    - Diagnosis
    - Record of procedures (operations etc) performed
    - Result of procedures/surgeries performed/ any other treatment given
    - Condition of the patient at the time of discharge

- Further management and medication
- Follow up advice
- Emergency contact number of the hospital/ emergency department/ treating consultant, in order to obtain urgent care

- Discharge summary typed and signed by the Treating consultant/ resident doctor.
- 3 copies of final discharge summary kept in patient file by ward nurse and electronic record of discharge summary is also maintained.
- One copy of the discharge summary is handed over to the patient/relatives and the other copy is attached to the patient's case file. One copy sent to the empanelled organization as per the norms.
- As per the instructions of the treating consultant in the discharge summary, patient relatives are advised by the ward nurse.

1.2 Final Billing

- On the day of discharge, confirmation of patient discharge is given by treating doctor or ward nurse.
- Patient file sent to billing section for final billing settlement by ward secretary.
- All the investigations, bed charges, consultation charges, surgery charges, consumables and other expenses incurred on the patient during his/ her stay in the hospital is entered in HIS. Accordingly bill is prepared by the Billing section.
- Bill is audited and 2 copies made – patient copy (original) and Billing copy (duplicate) for Finance Department in case of Cash patients. 3 copies are generated in Credit cases – one for Empanelled organization (original), one for patient (duplicate) and one for the Finance department (duplicate)
- Patient relative is informed regarding the bill.
- Patient relative sent to billing section once patient's file reaches Billing Department.

Cash Patients

Payment is done. Patient is handed over an original Bill and final clearance slip/ payment slip to be shown to the ward secretary on floor.

Credit Cases

- In case of credit, the sanctioned amount is crosschecked with the empanelled organization
- Accordingly the bills raised are cleared, signature of the patient / blood relative is taken on the original bills and papers and a photocopy of both is handed over to the patient for his / her reference.
- A photocopy of the discharge summary is also handed over to the patient and the original is sent to the organization.

1.3 Patient Counseling

- Prior to final discharge of patient from the hospital the ward nurse counsels the patient regarding the diet, medications, follow up procedure etc as mentioned in the discharge summary.
- Patient follow up visit dates are clearly informed and next appointment is booked. Patients discharge records are entered in the ward admission / Discharge register.
- Patient along with the relatives leave the hospital. In case of old patients they are taken to the hospital exit area in wheelchairs by housekeeping staff and seen off.
- An ambulance is provided if request is received from the patient and billing for the same is done and payment received.

1.4 Leave against medical advice (LAMA)

- In case patient / relatives seek discharge against medical advice ; the same is indicated in the patients case record by the Primary Treating Consultant/ Resident Medical Officers.

- Patient / relatives are informed about the patients condition and the consequences that may follow after discharge.
- Even after that the patient/relative are keen on taking discharge a written consent is taken from the patient / relative stating that they have been explained about patients condition and the consequences that may follow and that the hospital shall not be held responsible for any ill consequences related to the patients conditions due to early discharge against medical advice.
- Records are entered in the LAMA register of the respective patient ward.
- Discharge Summary is prepared and the above mentioned steps are followed.

2. Death of Patient

- In case the patient expires the primary treating consultant / Medical Resident Officer / Nursing staff informs the patient relatives. Patients relatives are allowed time with the body.
- Ward nurse makes necessary preparation for cleaning the body. Body is cleaned by designated staff and wrapped in clean sheet. The "on duty medical officer" prepares two copies of the Death Certificate and the Death summary. The Death summary should include the cause, date and time of death. The Death certificate and the Death summary is stamped. Body is handed over to the patients relatives or kept in the mortuary within an hour of death. Body is handed over to the relatives along with one copy of death summary and death certificate and the other copy is attached to the patients case records. If the body is to be kept after proper labeling on wrist/ ankle & showing to the relatives.
- The body to be shifted to mortuary by the General Duty Assistant / Housekeeping staff.
  - Before keeping the body in the mortuary, the security in charge confirms the machine is switched on or is in working condition.
  - In case of Medico **Legal Cases** the local police station is informed and they will decide the need for post – mortem. Here the body is not handed over to the relatives by the hospital but is handed over to police.

GENERAL PRINCIPLES FOR EFFECTIVE DISCHARGE

1) The discharge planning process begins as soon as is practical after the patient is admitted to hospital. All patients should receive a comprehensive assessment of their actual and potential discharge needs by relevant members of the multi professional team.

2) No discharge should be considered 'routine'. All discharges have the ***potential*** to become complicated. Time spent talking to patients and assessing their needs at the start of the process can uncover potential problems and help to facilitate a smooth planned discharge.

3) A discharge date should be set as early as possible, although it is recognized that ultimately any discharge is dependent on the clinical progress of the patient and may be subject to change.

4) Discharge documentation should be concise, easy to use and, most importantly, relevant. Staffs should familiarize themselves with documentation used in the discharge process and ensure they are competent in its completion.

5) Despite pressures to maximize bed usage, patients should only be discharged when their needs have been assessed and all practical measures have been taken to meet these needs. Untimely discharge may result in a rapid readmission.

6) Communication between all departments is very important. Team participating in the planning of a patient's discharge should be aware of all other members involved, including those in external agencies.

7) Patients especially those requiring social care / community nursing input should ideally not be discharged at weekends or late in the day.

NURSING RESPONSIBILITIES FOR DISCHARGE

1. Whilst the responsibility for deciding whether a patient is *clinically* fit for discharge rests ultimately with the Consultant, the responsibility for co-coordinating a smooth discharge process that meets with the patient's needs, rests with nursing staff.
2. Every discharge should be treated as unique to the individual patient it concerns, but the following points should be considered:

(a) As soon as possible after the admission, a full assessment of the patient's potential discharge needs should be undertaken.

(b) Every patient should have a **named nurse** who is responsible for facilitating their discharge. He / she should ensure that the nursing team is aware of the activities required to be undertaken to complete a smooth discharge.

(c) Good communication is vital. The patient must be integral to their discharge planning and should be fully involved and informed of planning and progress throughout the whole process.

RESPONSIBILITIES OF HOSPITAL PHARMACY DEPARTMENT

The role of the pharmacy department is to timely provide discharge medications and advice, where applicable, for all patients being discharged.

a) Nursing staff should ensure that the patient and if required appropriate relatives are given a full explanation of the medications that have been given for discharge (including the purpose of the drugs, why they have been prescribed and the dose to be taken and when). The services of the pharmacist should be utilized if there are any doubts regarding discharge medications.

b) The amount of tablets / medicines to be dispensed to the individual patient on their discharge will be decided by the consultant.

REVIEW OF LITERATURE

- **Chang G (1988)** had done a study to identify the distinguishing characteristics of patients with unplanned discharges from day hospital; the author reviewed 96% of all 1987 admissions. Unplanned discharges included precipitous in-patient hospitalization, discharge before 30-day program completion, and discharge against medical advice. Forty-three percent of reviewed admissions ended by unplanned discharge. Psychiatric patients with recent and/or remote substance abuse and patients with multiple day-hospital admissions were especially vulnerable to unplanned discharge. Use of a backup bed during admission and being referred from the general-hospital emergency room or parent mental-health facility were associated with high rates of unplanned discharge. Patients with multiple admissions were more likely than those with a single admission to have personality disorders and to be female and white. Using logistic regression analysis, the author found that when patients had several characteristics increasing their risk for unplanned discharge, the odds of leaving before program completion were considerable.

- **Paul peters** et al (1997) A project employing a liaison none has been started in the Dutch Zaandam region. The liaison projects will discuss on the experience of problems in preparing for hospital discharge and on continuity between hospital and home care. This article discusses the effect of the liaison nurse on the quality of the discharge planning process. The Investigation included a pre-test and a main test for which data were collected using questionnaires. These were sent to patients who had received after-care on being discharged from hospital. To measure the quality of the discharge process and after-care continuity, use was made of explicit quality criteria, targeting discharge planning. The results show mat discharge planning in hospitals has improved. No significant improvement was detected with respect to continuity of care. It may be concluded that the discharge process requires more attention. The quality criteria used here could function as points of departure.

- **David Anthony** et al (2005) The transfer of patient care from the hospital team to primary care and other providers in the community at the time of discharge is a high-risk process characterized by fragmented, non standardized, and haphazard cares that leads to errors and adverse events. The development of interventions to improve the discharge process requires a

detailed evaluation of the process by a multidisciplinary team. Methods used are the resources of the Boston University- Morehouse College of Medicine AHRQ Developmental Center for Patient Safety Research (funded by the Agency for Healthcare Research and Quality), multidisciplinary teams have been assembled to identify and address the sources of error at discharge. To better understand the current hospital discharge process, the researchers have applied a battery of epidemiologic and quality control methods taken from industry. These include probabilistic risk assessment, process mapping, qualitative analyses, failure mode and effects analysis, and root cause analysis. The researchers describe each of these methods and discuss their experience with them, displaying concrete tools that have arisen from their application. The conclusion of the study was a detailed, multifaceted process analysis has provided us with powerful insight into the many patient safety issues surrounding the discharge process. The generalizable methods described here have produced the re-engineering of the discharge process, allowing for the planning of a clinical trial and significant improvements in patient care.

- **Sima Ajam** et al (2006) The hospital discharge process is a basic bottleneck in hospital management. Improved discharge process is the main strategy that covers many hospital activities. The main objective was determining average waiting time of patient discharge process at Beheshti Hospital in Esfahan, Iran in the spring of 2006. This study was a case study in which data were collected by questionnaires, observation and forms. The statistical population was all personnel involved in discharge process and patients discharged throughout the spring of 2006. To analyze data SPSS and Win QSB (Windows Quantative Systems for Business) were used. Results According to the personnel's views, the main factors affecting average waiting time were patients' financial problems and un-accessibility of interns to complete the summery sheets. The longest patient's waiting time for discharge was 345 minutes and the least was 35 minutes. Average time for patients in discharge process was 197 (±65) minutes. This study concluded that Discharge planning is a routine feature of health systems in many countries. Hospital information system should be implemented at least between wards, Para-clinics stations, accounting and cashier station. It causes many stages in manual patients' discharge process will be omitted.

- **Charity Mukotekwa** et al (2007) had done a study aiming that the complexity of the discharge planning process is such that it is often difficult to achieve in a totally efficient and effective manner. In this paper a systems approach is adopted in analyzing the discharge planning process in a general surgical ward in order to understand better the nature of this complexity. Adopting a soft systems methodology it is shown that the major issues to be addressed relate to the need for a more seamless service provision and more effective utilization of resources. Conceptual models are formulated which enable comparison to be made between current provision and the issues that need to be addressed. This in turn results in the creation of an agenda of items for change, from cultural, organizational and technological perspectives, which can be considered in terms of their feasibility and desirability. Key proposals highlighted, so as to improve discharge planning, include: the need for greater co-operation between the many healthcare professions involved; the adoption, particularly on the part of nursing staff, of a more holistic approach with regard to the needs of their patients; enhancing the utilization of nursing staff; and moving towards a greater adoption of information and communication technologies as a means of achieving more effective communication. More generally, the paper provides an example of the role that soft systems analysis can play as an aid in dealing with the complexities of healthcare processes and their management.

- **Laurie D. Wolf (2007) .** Management Engineers at Barnes-Jewish Hospital conducted more than 60 “events” in key areas involving more than 850 employees. These events have included Value Stream Analyses (VSAs) where multidisciplinary teams examine current processes, define an ideal state, and identify performance improvement opportunities. The focus of this project was to understand the barriers to performing circumcisions, baby photos, car seats and transportation before the patient needed to go home. Physician Transportation was another barrier to discharge. Solutions included a combination of patient/family awareness of discharge time and transportation assistance. The process changes resulted in an improvement from 0% to over 90% of the patients being discharged by 1:00 pm. The transportation issue was also a barrier experienced on the medicine divisions. Before the discharge RIE on the medicine divisions, 50 percent of the discharges

occurred after 4 p.m. The RIE team for the medicine divisions also established a discharge time goal of 1 p.m.

- **Peter R,Jessica E,zaltmann G.** planning for a patient's post discharge needs care and does not begin on the day when decision is made to release the patient from the hospital. It is generally accepted that discharge planning should start before admission (for a planned admission) or at the time of admission (for an unplanned admission). A combination of individual factors, most notably age, medical factors such as presence of multiple pathology, and organizational factors such as lack of alternative forms of care facilities put patients at risk of delayed discharge. Moreover, lack of nurses' participation also contributes toward the delaying of discharge. In this article, the author provides strategies to improve nurses' participation in discharge planning and discusses the importance of involving patients and their caretakers in decision making.

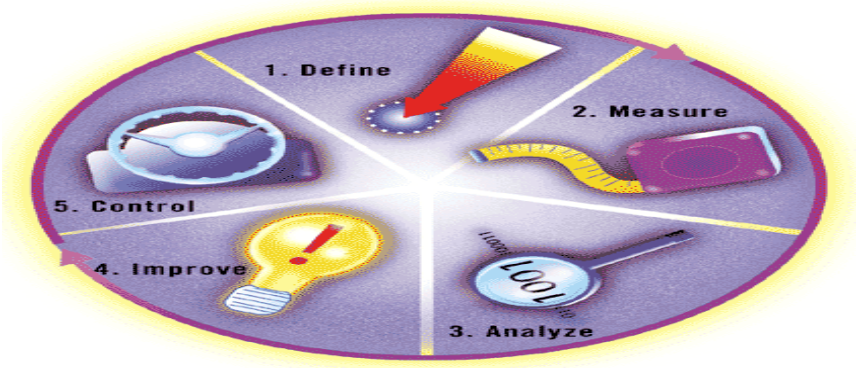
- **Shepperd S. et al.** Discharge planning is critical to ensuring rapid, safe and smooth transition from hospital to another care environment; it involves the social work functions of high risk screening, social work assessment, counselling, locating and arranging resources, consultation/collaboration, patient and family education, patient advocacy and chart documentation; it is a complex activity requiring a wide range of clinical and organizational skills to address needs of patient, family and health care system and to promote the optimum functioning of patients, families and support systems. Delay factors may be internal (waiting for discharge summaries; waiting for declaration of chronicity; transfer between nursing units; lack of documentation of discharge plan); external (lack/delay of access to rehabilitation, convalescence, palliative care, home care resources, long term care facility); and psychosocial (waiting for family adjustment to illness, waiting for patient function to improve, unrealistic expectations of patient/family, social isolation of patient, inadequate support at home, lack of concrete medical aids, transportation for treatments, financial, family burden prevents discharge home).

- **Zehner,R.B.Mofitt R**. A combination of individual, medical and organizational factors interact to put people at risk of delayed discharge. The literature review identifies that older people, those with multiple pathology, and those with some specific conditions (such as neurological deficit and stroke) are most at risk. Some medical conditions appear more likely to lead to a delayed discharge for all age groups and that this is often because there is a lack of alternative care facilities available for these particular people. In other words, it is not the clinical condition per se, which causes the delay, but how organizations are managing services to care for these particular clinical groups. Problems within both health and social care organizations have been attributed with causing delayed discharges. Organizational factors associated with delay include: (i) lack of home support, (ii) unavailability of convalescent or rehabilitation facilities, (iii) waits for community care needs assessments or home care packages.

DMAIC

METHODOLOGY

Six Sigma is a management strategy that seeks to identify and remove the **causes of defects and errors** in service delivery and/or processes and helps to achieve uniform results. It aims to deliver "**Breakthrough Performance Improvement**" from current levels. So, it is a performance improvement methodology that seeks to identify the key sources of variation in a process that cause defects to occur. By mapping processes, measuring their output, and analyzing its many input variables, Six Sigma determines how to optimize the output from a process by controlling the inputs. Six Sigma projects move through a disciplined framework (known as "DMAIC"):



Six Sigma Methodology :

DMAIC , inspired by Deming's Plan-Do-Check-Act Cycle is a scientific and practical method used to improve an existing process or design.

The basic DMAIC methodology consists of the following five steps:

• **Define** process improvement goals that are consistent with customer demands and the enterprise strategy.

• **Measure** key aspects of the current process and collect relevant data.

• **Analyze** the data to verify cause-and-effect relationships. Determine what the relationships are, and attempt to ensure that all factors have been considered.

• **Improve** or optimize the process based upon data analysis using techniques like Design of Experiments.

• **Control** to ensure that any deviations from target are corrected before they result in defects. Set up pilot runs to establish process capability, move on to production, set up Control mechanisms and continuously monitor the process.

DEFINE THE PROBLEM:

OBJECTIVE OF THE STUDY

Streamlining the Discharge Process at RGCI & RC.

SPECIFIC OBJECTIVES :-

1. To study the Discharge process at RGCI & RC.
2. To analyze the steps involved in the Discharge Process and compare them with expected time-lines.
3. To carry out Root Cause Analysis (RCA) of significant reasons of delay in:

   a) Discharge summary preparation in Medical OPD for each unit.
   b) Billing during discharge process.
   c) IP Pharmacy during discharge process.

4. To give recommendations for re-engineering the Discharge Process to minimize the delays.
5. To carry out control phase for the same to see the difference in Discharge TAT.

RATIONALE FOR THE STUDY

The purpose of study is to discover the answers to questions through the application of scientific procedures. The main aim of project is to study the major reasons of delay in discharges and suggest possible solutions for hassle free and timely discharges and provide suitable answers to improve the system in IP services.

SCOPE OF THE STUDY

The scope of the study includes Ward secretaries, Summary executives, Front desk assistants, Nurses, Billing staff, In- Patient Pharmacy staff, Doctors, Higher administration, Patients and their attendants.

MEASURE THE PROCESS:

METHODOLOGY

Type of study

- **Concurrent Descriptive Study**- It is a concurrent study because data collection was done on a daily basis as the discharges were taking place.
    - It describes the entire discharge process in detail and throws light on Turn Around Time of different sub processes in a discharge.
    - It also captures the details of sub components in Discharge such as Summary room, Billing dept, IP Pharmacy dept etc.

Sampling technique

- **Random Sampling**- Data collection was done from each nursing counter on each floor. Random sampling was preferred as it gives an unbiased result and also that each possible sample has the same probability of being chosen.

Sample Size : Collected in 5 phases

150	**Overall discharge process (150/600X100= 25%)**
50 X5Med OPD Units=250	**Summary room Med OPD (50/60X100= 83.3%)**
50	**Billing dept (50/360X100= 13.8%)**
50	**IP Pharmacy (50/120X100= 41.6%)**
150	**Compare Case Vs Control Phase (150/600X100= 25%)**

- A detailed data collection with 150 sample size was done for the overall discharge process on every floor using the excel sheet.
- To further find out the bottlenecks in various sub processes involved in Discharge, detailed study was done in Summary room, Billing Dept & In- Patient Pharmacy one by one.
- Summary room(Medical OPD) was studied in detail collecting a sample size of 50 per Med OPD Unit for 5 units which amounts to a total of 250 using excel sheet.
- Similarly data was collected in Billing Dept and Pharmacy with a sample size of 50 each using excel sheet.
- In the end, to compare Case and Control, again a sample of 150 was collected following the entire discharge process.

Duration of study

- 10th January – 10th April‘2012 (See Annexure 1)

Type of Data

- Primary Data- Primary Data Collection
  - Observation of the discharge process.

- ❖ Time and Motion Study for the discharge process through excel sheet
- ❖ Discussions with the doctors, nurses, GDAs, billing staff, pharmacy staff and the service providers.

Data Collection Tool

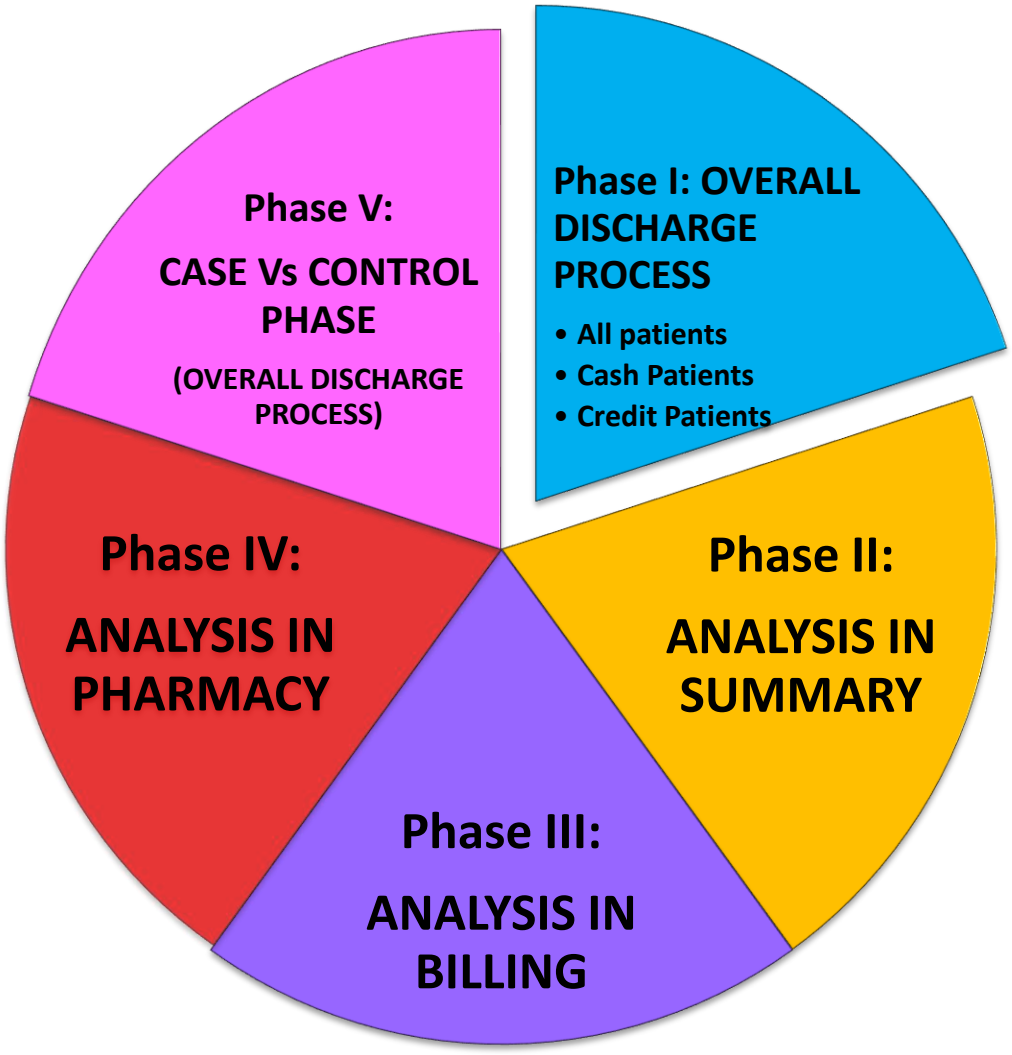
- ❖ Manually following the discharge process on a Discharge Monitoring Tool (excel sheet). (See Annexure 2)
- ❖ Ishikawa Diagram (RCA)
- ❖ FMEA (Failure Mode Effect Analysis)

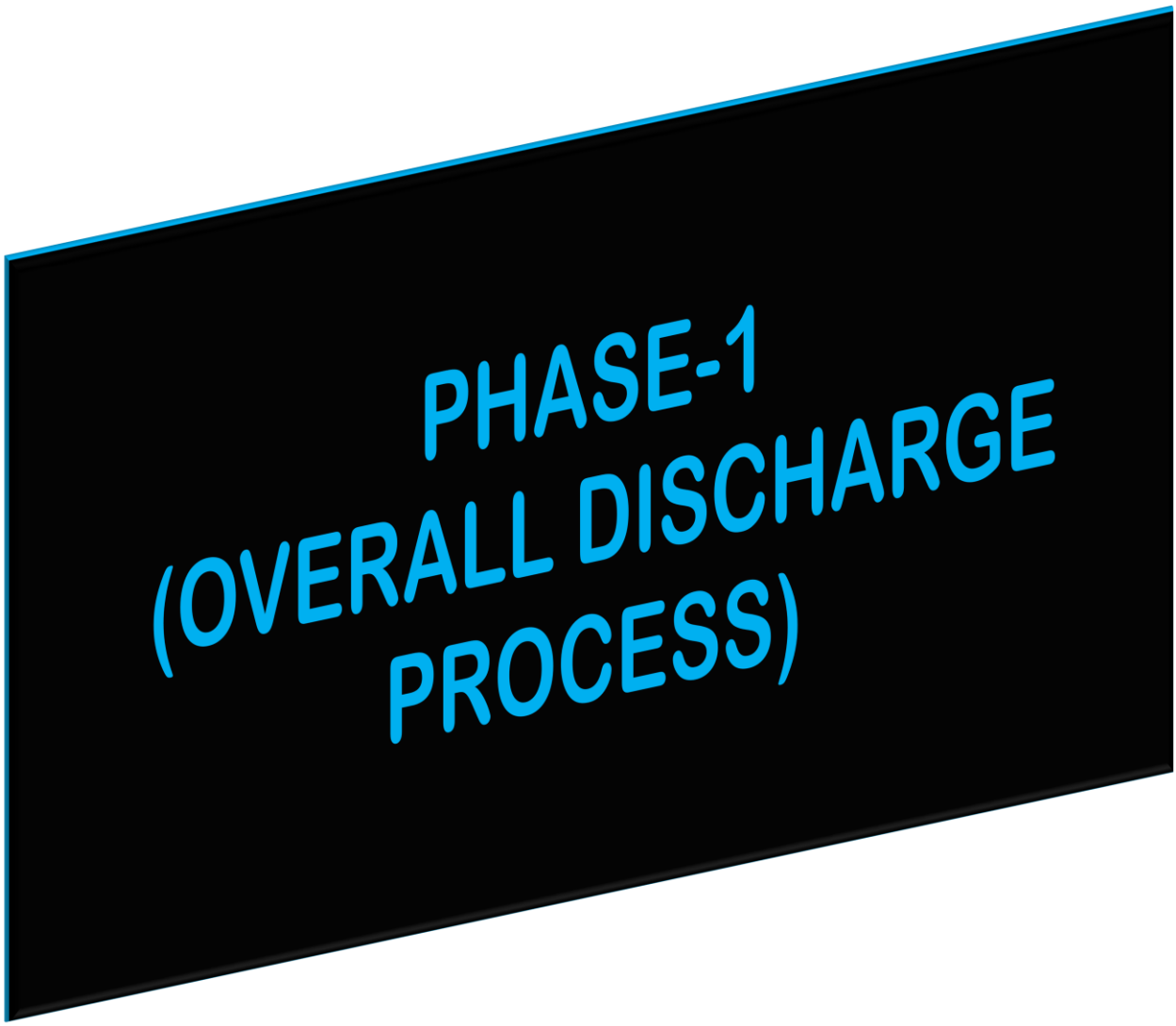
STUDY DESIGN

The study is divided in following stages:

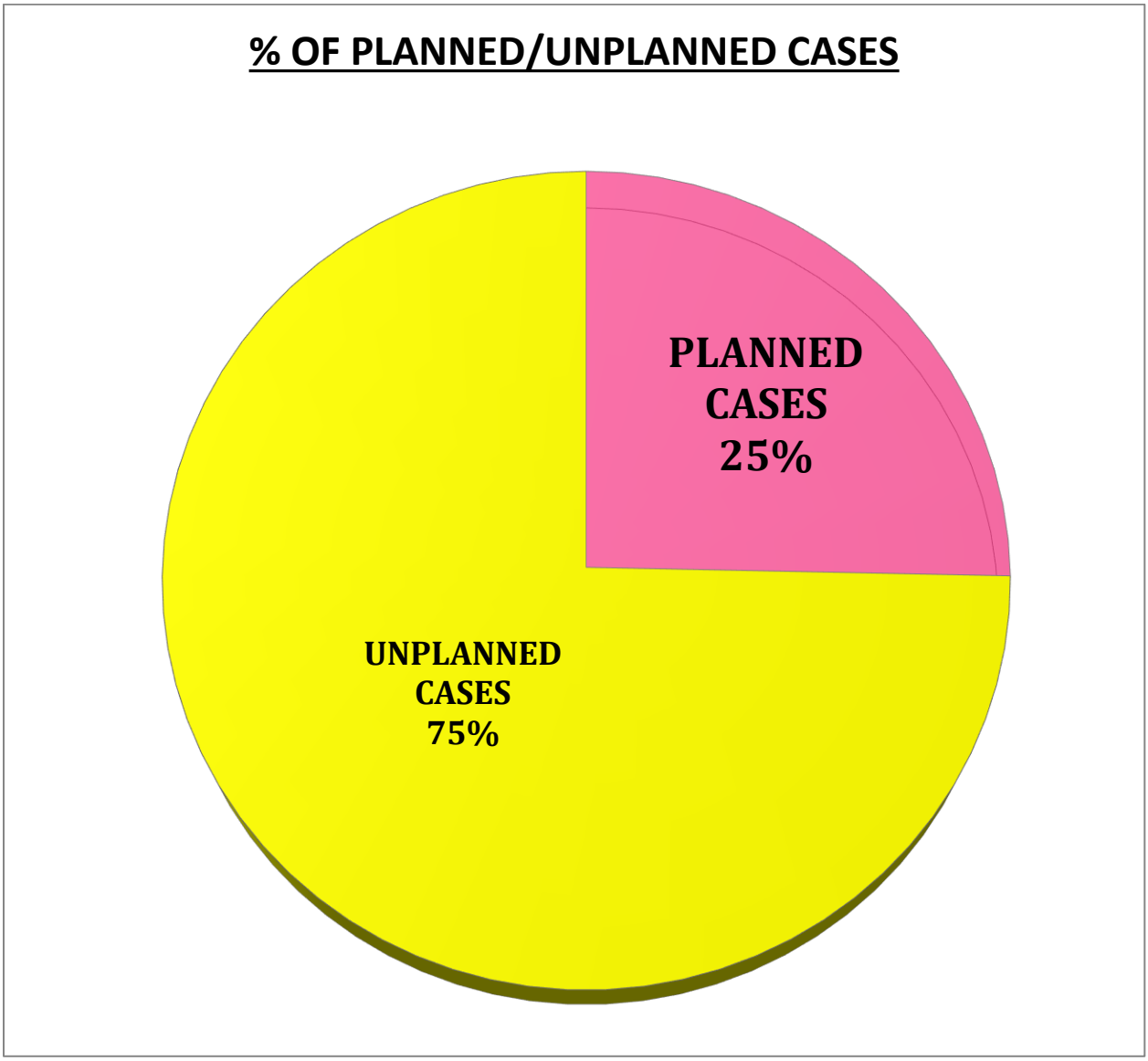
- Study of the discharge process in the I.P. Department at RGCI & RC.
- Survey to study the steps in patient's discharge from the hospital, comparing with expected time-lines
- Compilation of the data and data analysis.
- Finding the bottlenecks in Discharge Process Planning.
- Proposing suitable recommendations.
- Carry out Control Phase.

DATA ANALYSIS




PHASE-1
(OVERALL DISCHARGE
PROCESS)

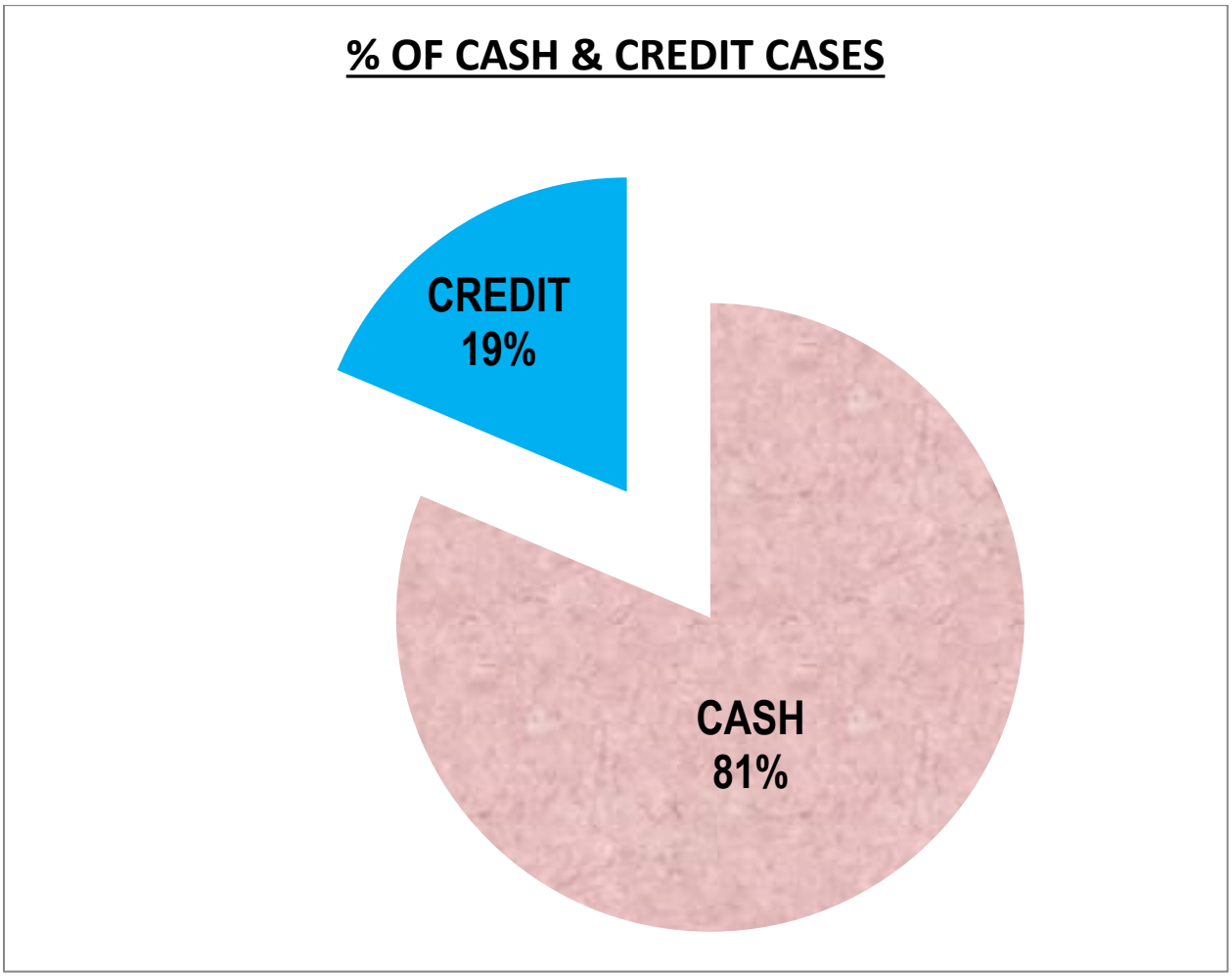
1) PLANNED Vs UNPLANNED DISCHARGES



- **Discharges** are said to be **Planned** when the doctor communicates discharge plan to sister and ward secretary clearly before the day of discharge.

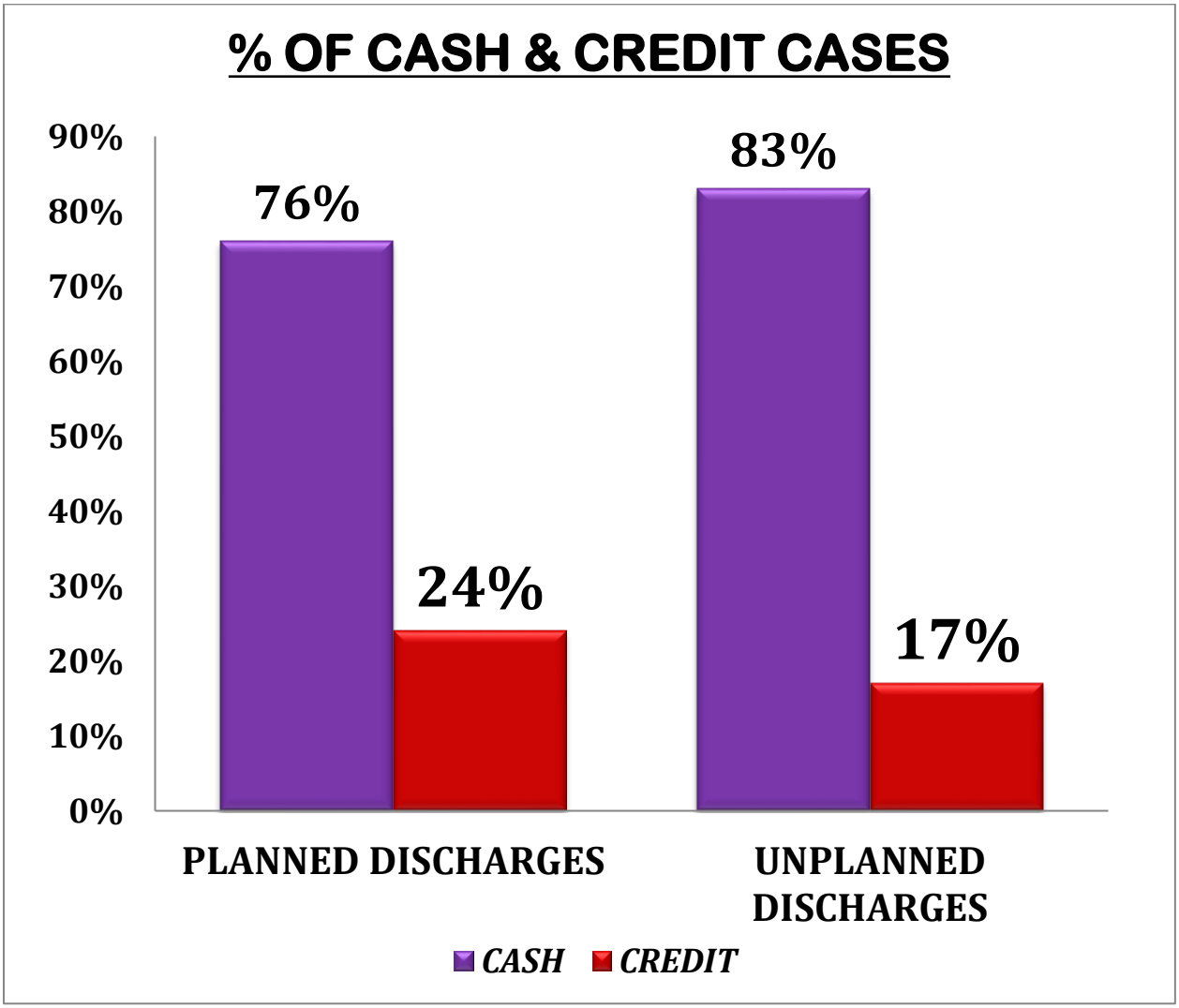
- Out of total data collected, approximately 25% discharges were planned & 75% were unplanned.

2) CASH Vs CREDIT CASES



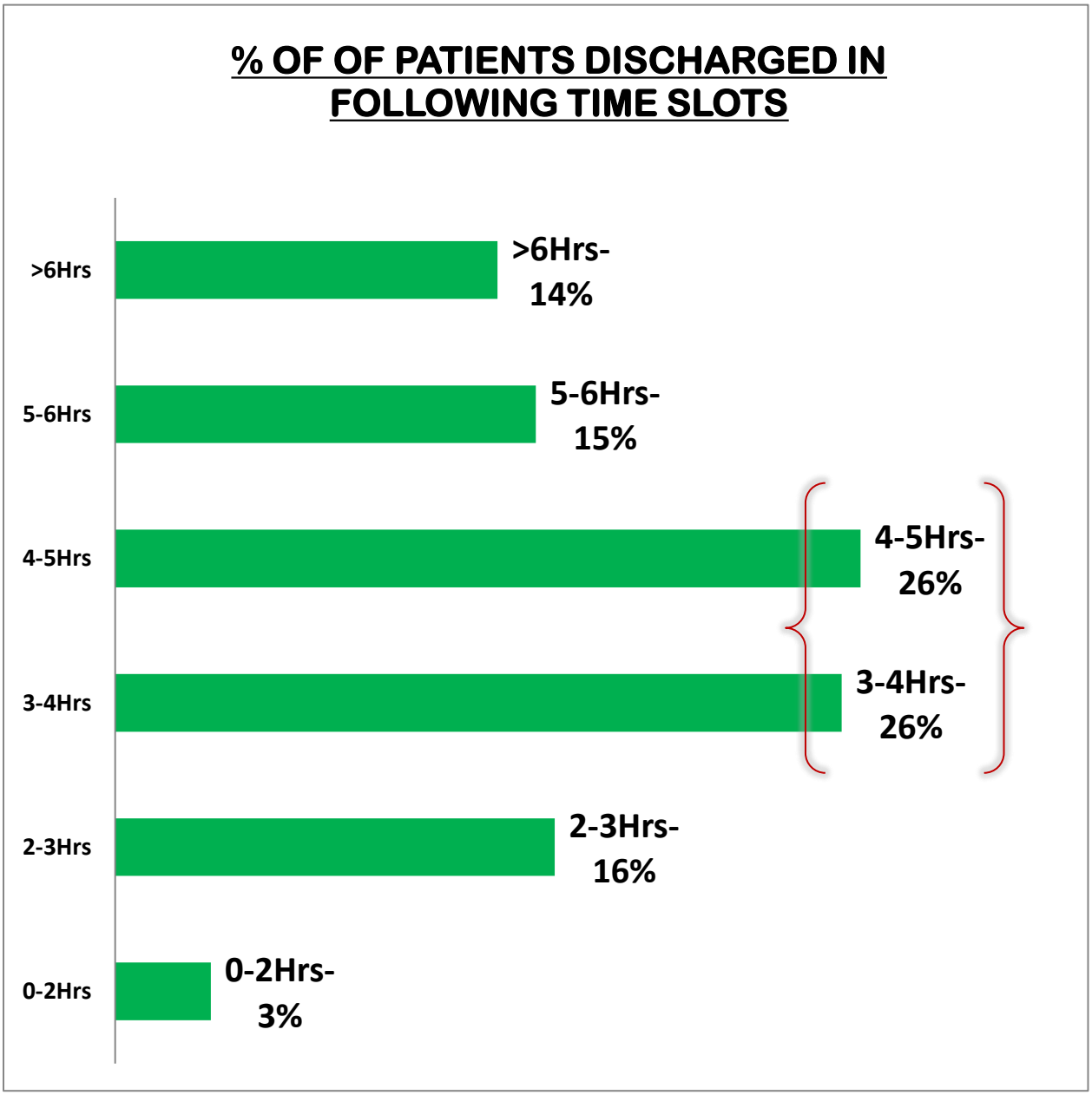
- Among the total cases, approximately, 81% were cash patients & 19% were credit patients

3) CASH & CREDIT CASES AMONG PLANNED AND UNPLANNED DISCHARGES



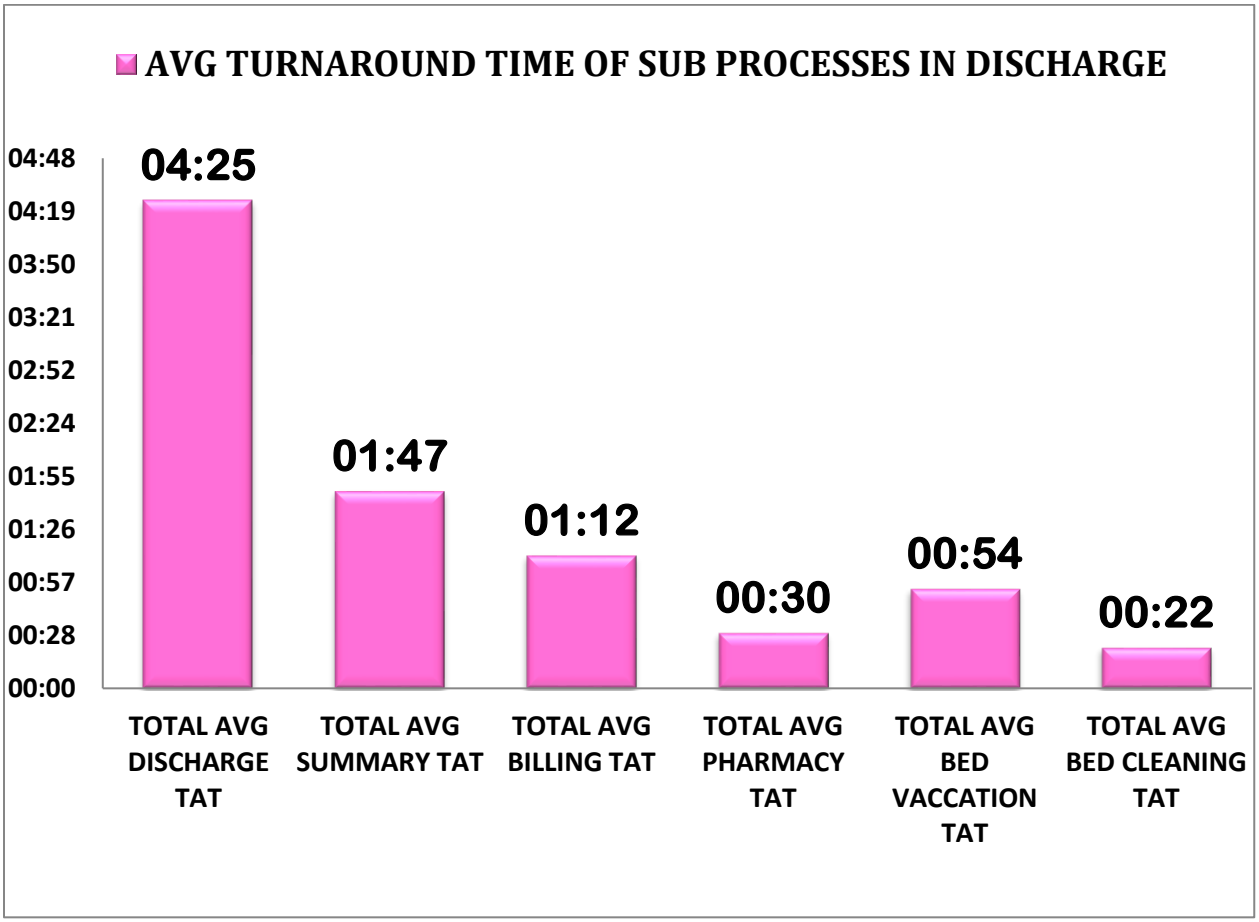
- Out of the planned discharges, 76% were cash & 24% were credit cases.
- Out of unplanned discharges, 83% were cash cases & 17% were credit credit cases.

4) PATIENTS DISCHARGES IN FOLLOWING TIME SLOTS



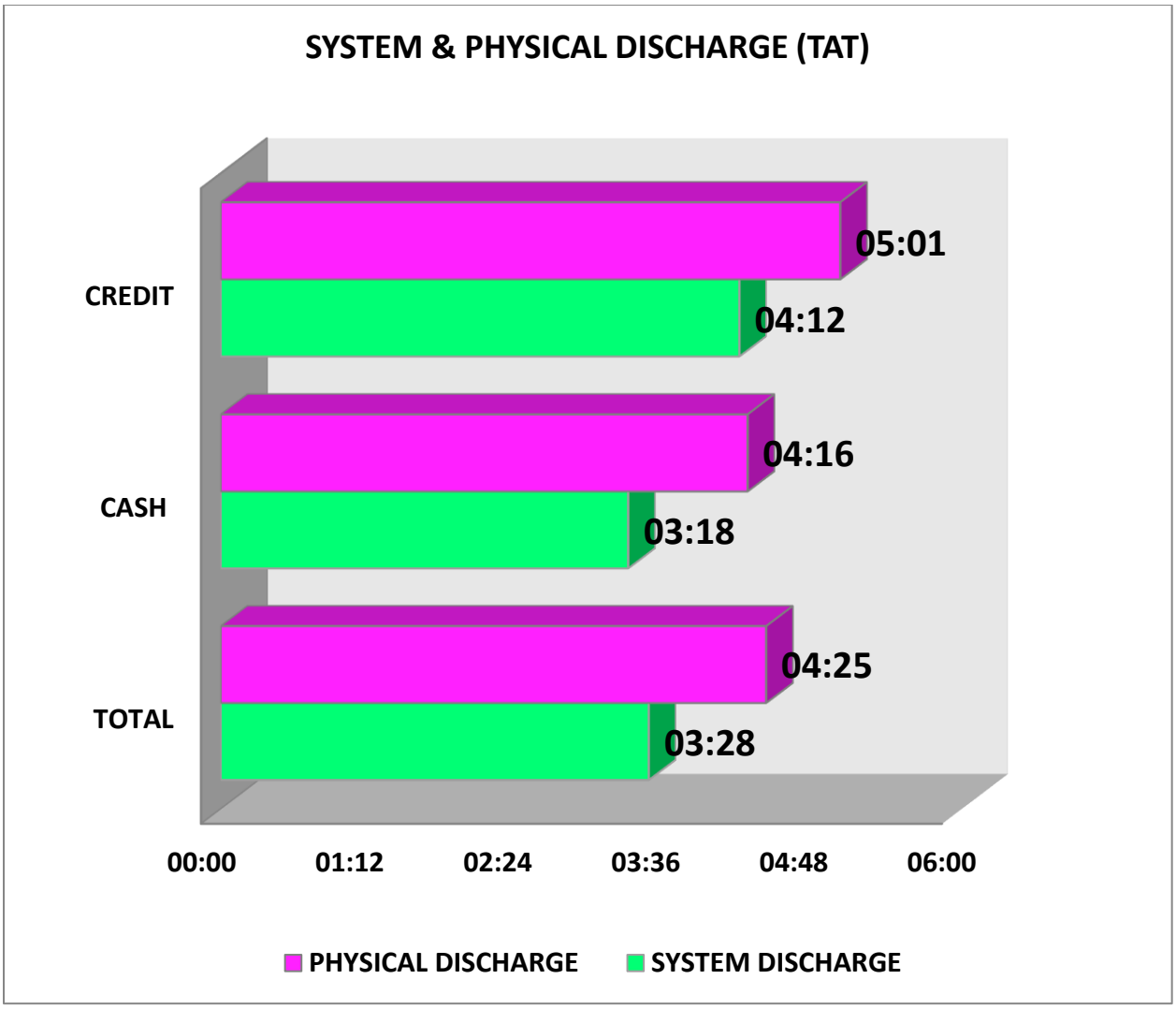
- Maximum patients were getting discharged in 3-5 hrs amounting to 52%

5) AVG TURN AROUND TIME OF SUB PROCESSES IN DISCHARGE



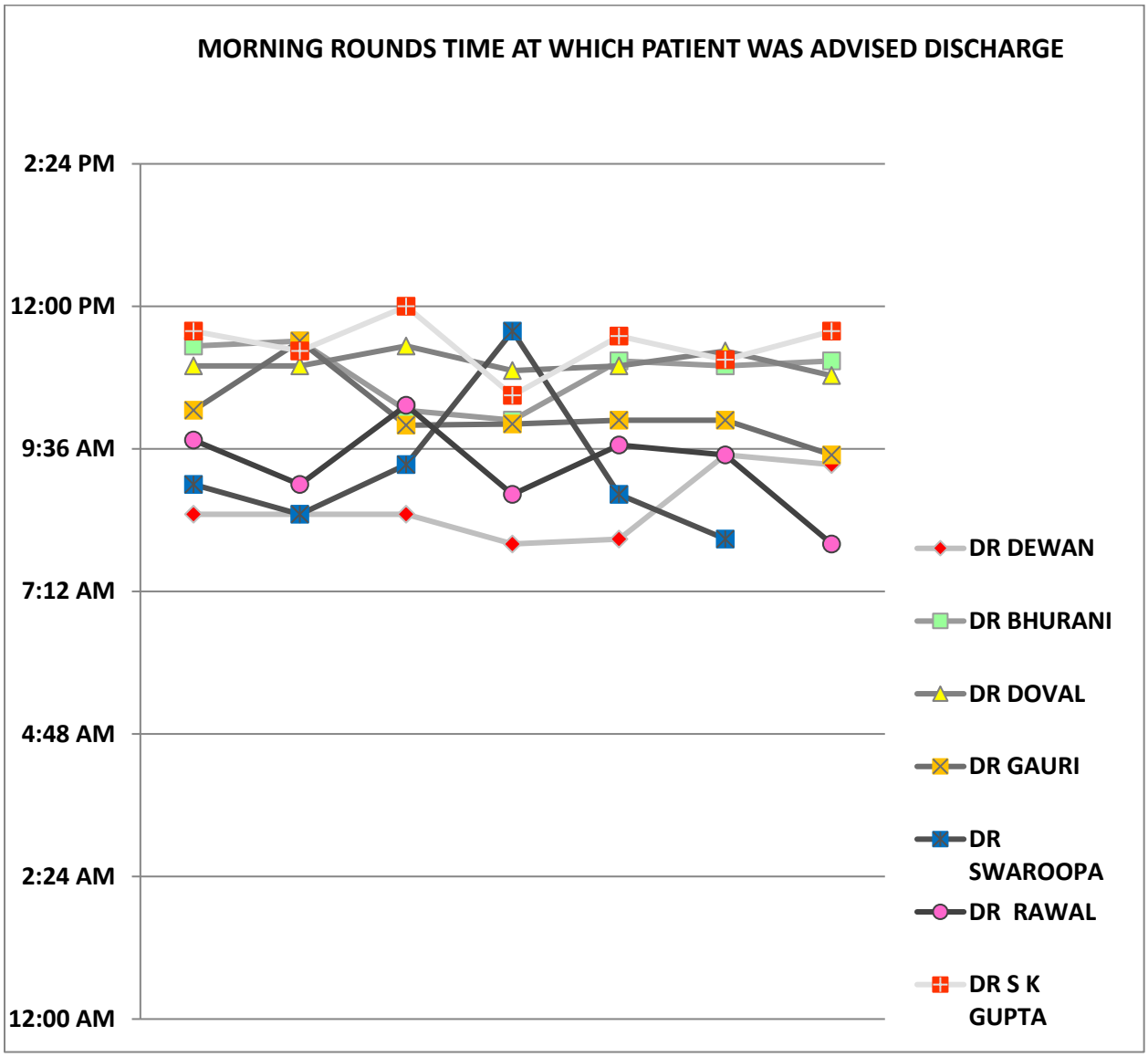
- Total time taken in Discharge Process was 4:25 hrs.
- Out of this, Avg Time taken in Summary preparation & dispatch was 1:47 hrs; Avg Billing TAT was 1:12 hrs; Avg time taken in Pharmacy was 0:30 mins and Avg time taken in Bed vacation was 0:54 mins.
- Avg time taken in Physical Discharge after final bill settlement was 0:54 mins.
- Avg time taken in bed/room preparation was 0:22 mins.

6) SYSTEM Vs PHYSICAL DISCHARGE



- Overall, physical discharge was delayed by 0:56 min as compared to system discharge.
- In case of cash patients, the difference was 0:58 min & 0:49 min in case of credit patients

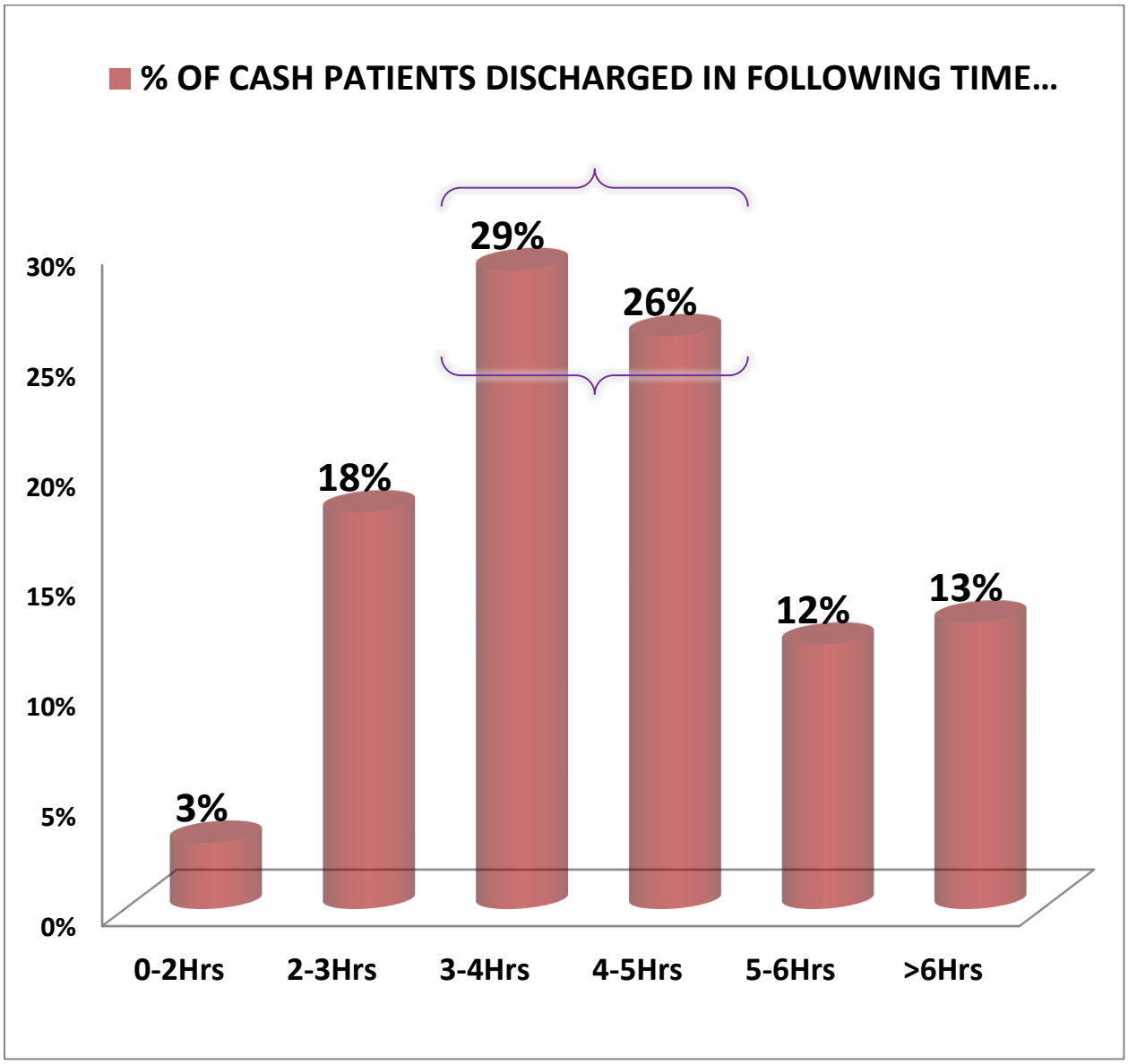
7) TIME AT WHICH DOCTORS TAKE MORNING ROUNDS



- Morning rounds time of different units in Medical OPD were ranging from 9:00 am to 12:00 pm .

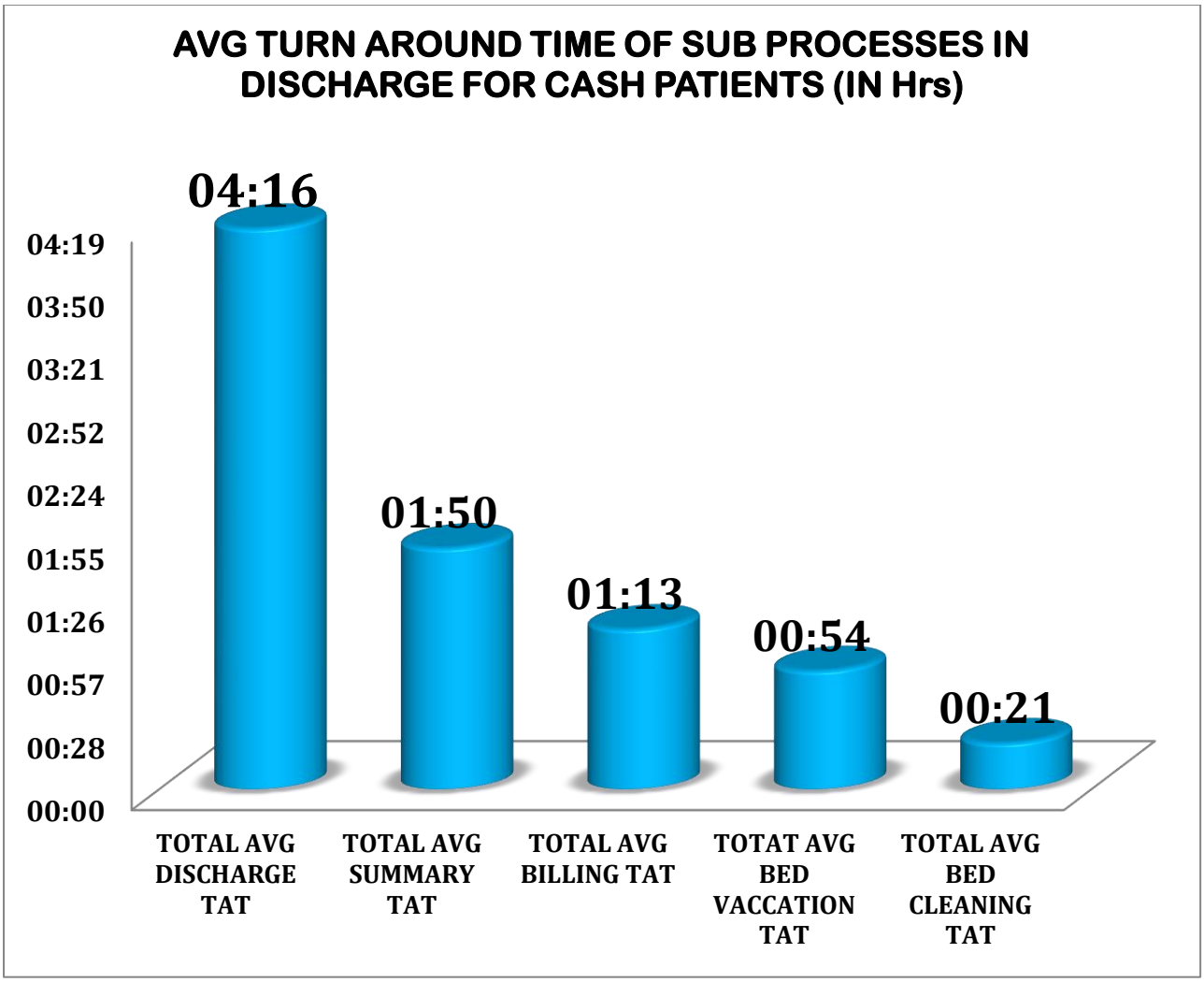

CASH PATIENTS

1) **CASH PATIENTS DISCHARGED IN FOLLOWING TIME SLOTS**



- Maximum no of cash patients were getting discharged in 3-5 hrs (55%).

2) AVG TAT OF SUB PROCESSES IN DISCHARGE FOR CASH PATIENTS

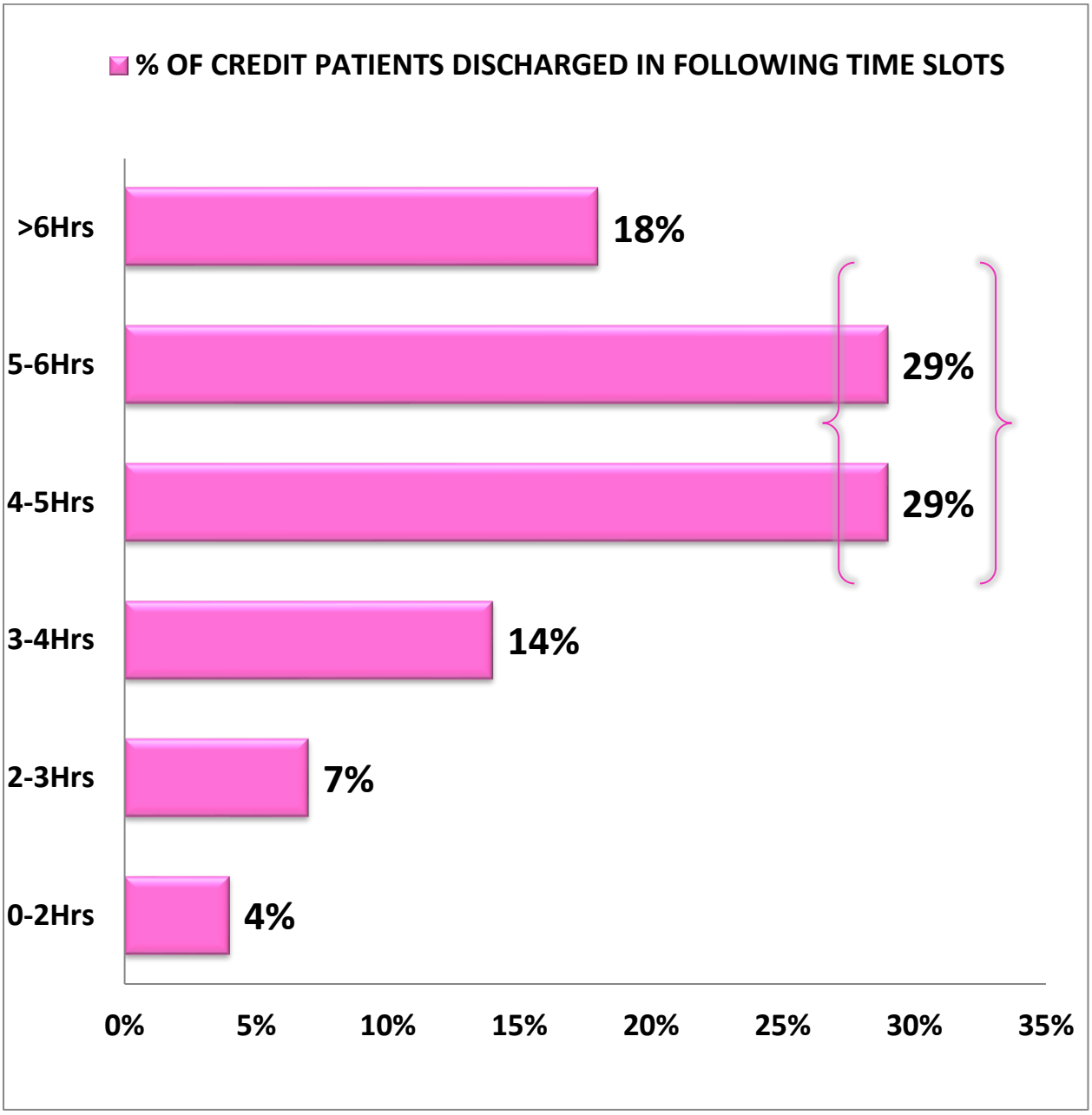


- Total avg TAT in discharge for cash patients was 4:16 hrs.

- Out of this, Avg Summary TAT was 1:50 hrs; Avg Billing TAT was 1:13 hrs and Avg Bed vacation TAT was 0:54 mins.

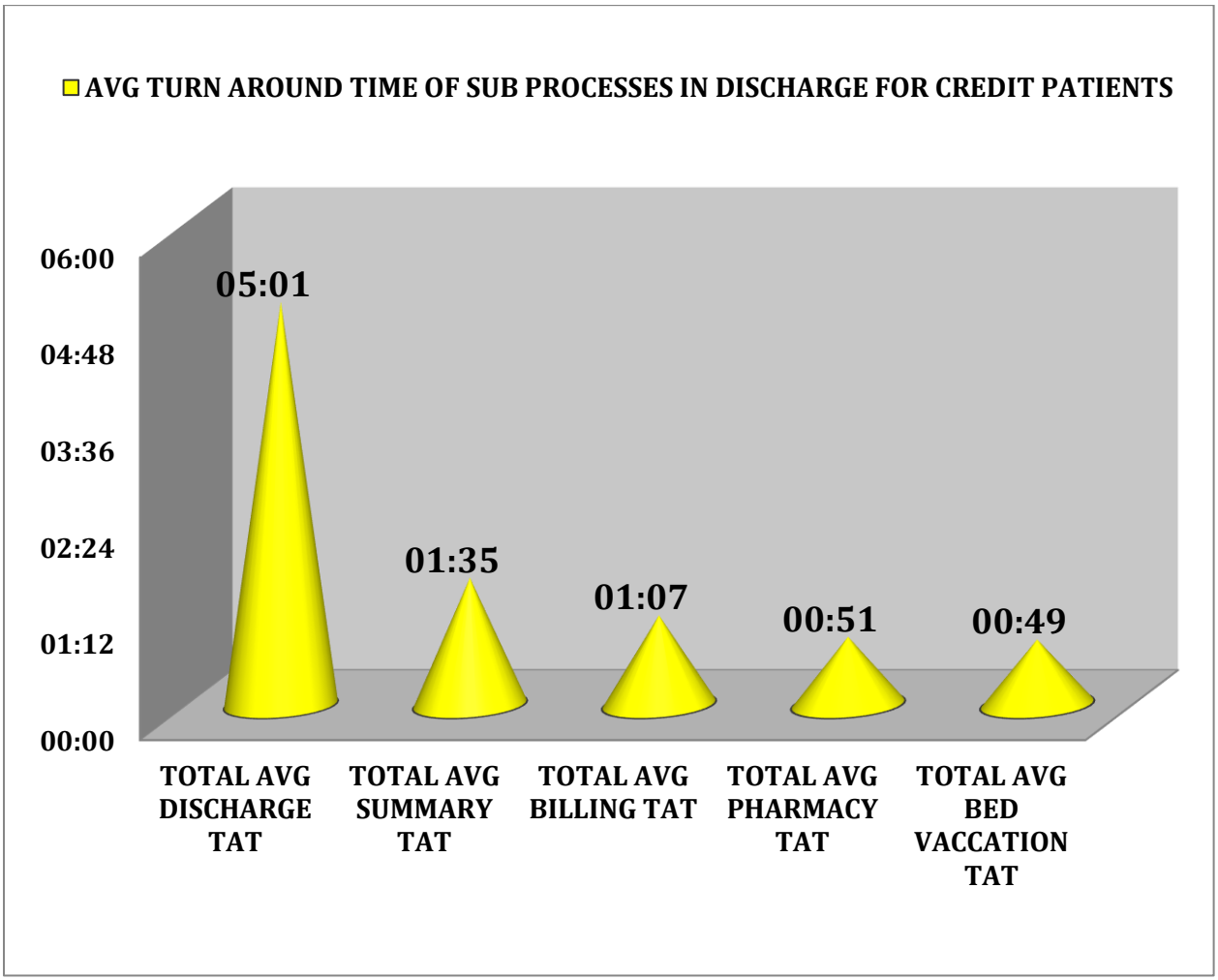

CREDIT
PATIENTS

1) CREDIT PATIENTS DISCHARGED IN FOLLOWING TIME SLOTS



- Maximum no of credit patients were getting discharged in 4-5 hrs amounting to 58% .

2) AVG TAT OF SUB PROCESSES IN DISCHARGE FOR CREDIT PATIENTS

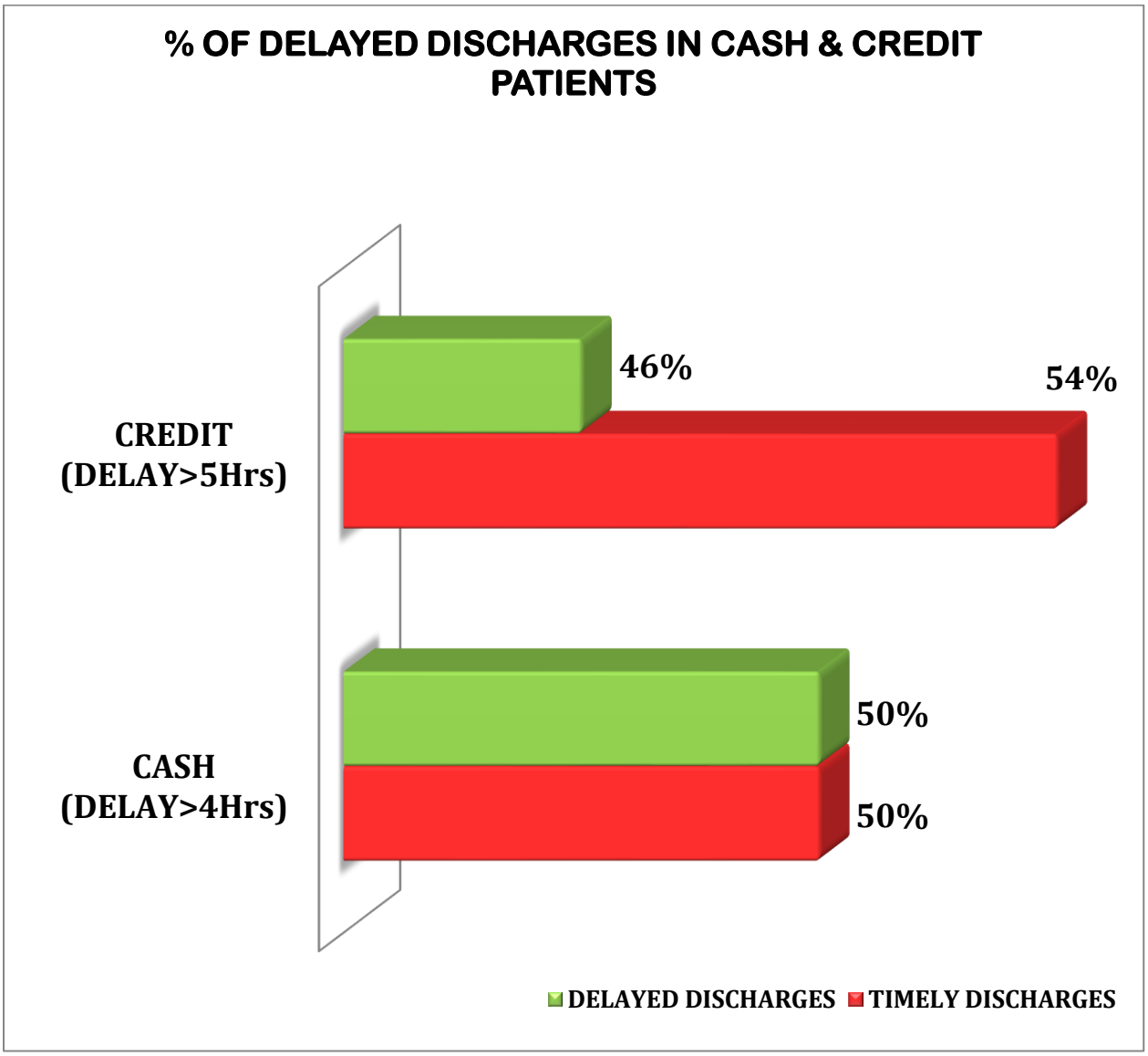


- Total Discharge TAT for Credit patients was 5:01 hrs.

- Out of this, Avg Summary TAT was 1:35 hrs; Avg Billing TAT was 1:07 hrs; Avg Pharmacy TAT was 0:51 mins and Avg Bed vacation TAT was 0:49 mins.


DELAYED
DISCHARGES

1) % OF DELAYED DISCHARGES IN CASH & CREDIT PATIENTS



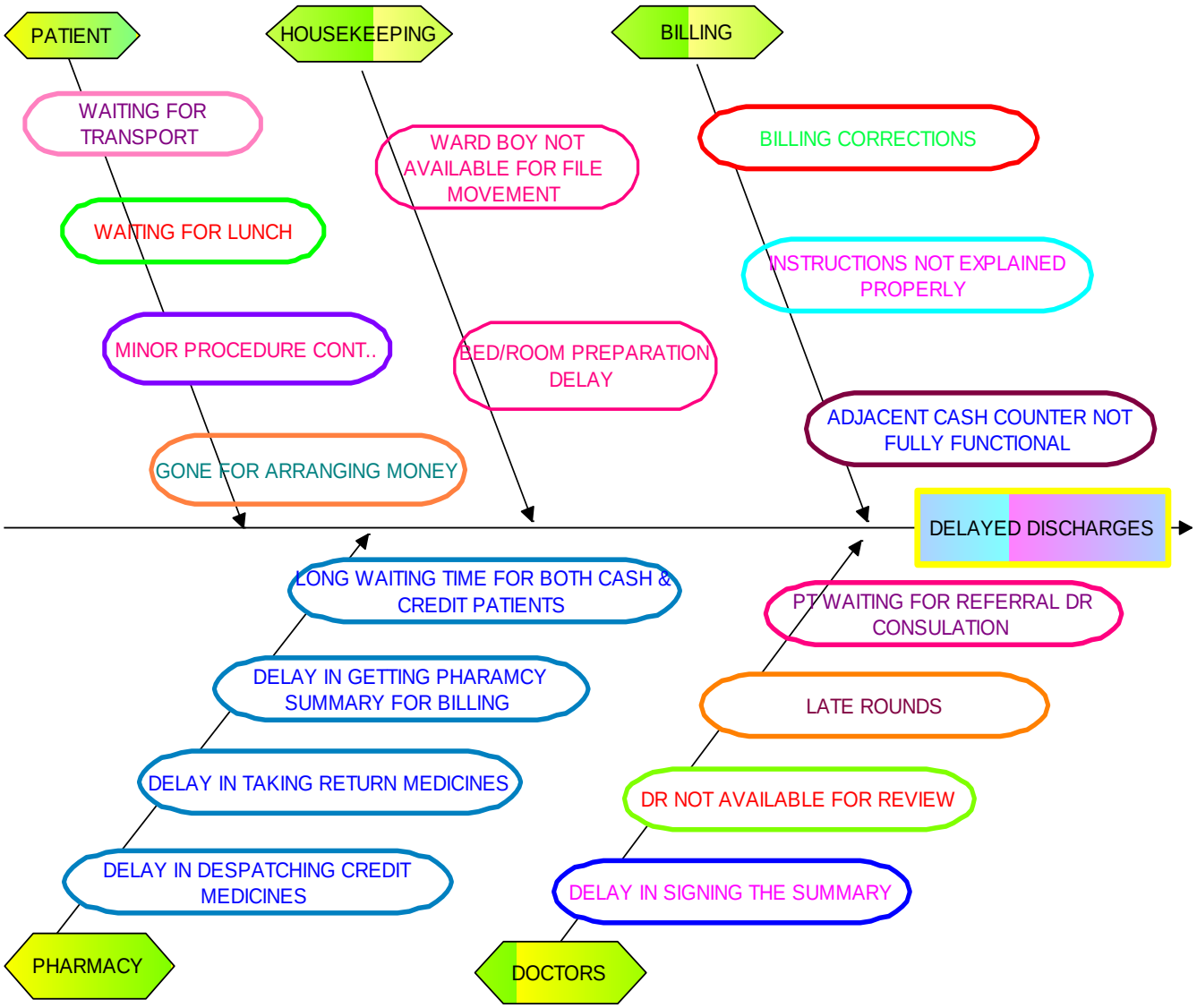
- Among cash patients, delayed & timely discharges were equal i.e 50% whereas in credit patients, timely discharges and delayed discharges were 54% & 46% respectively

2) ROOT CAUSE ANALYSIS (ISHIKAWA DIAGRAM)

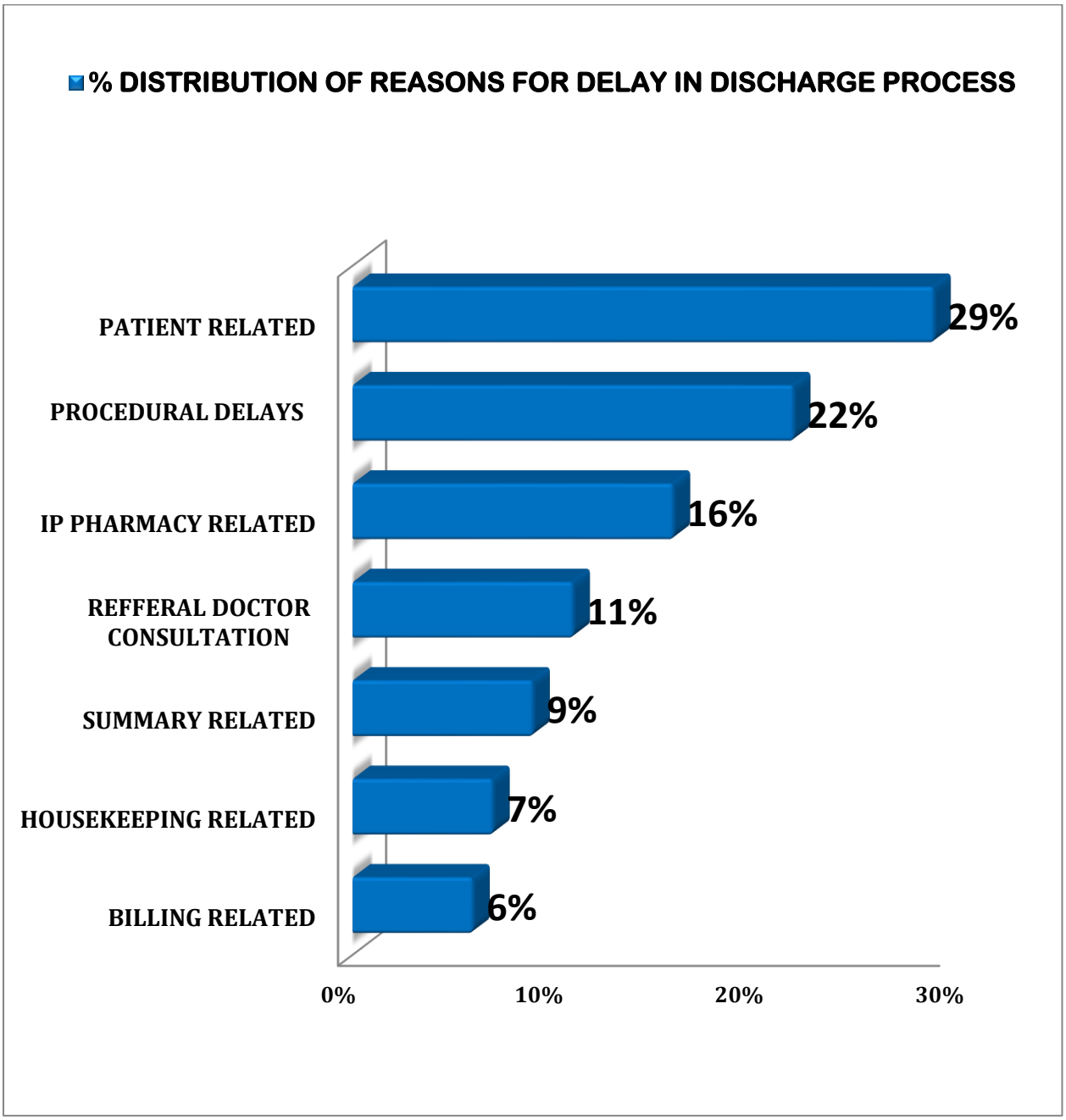
Helps in identifying root causes of the quality failure (Helps in the diagnostic journey.)

RCA Steps are as follows:

a. Gather the facts
b. Choose the team
c. Determine sequence of events
d. Identify contributing factors
e. Select root causes
f. Develop corrective actions and follow

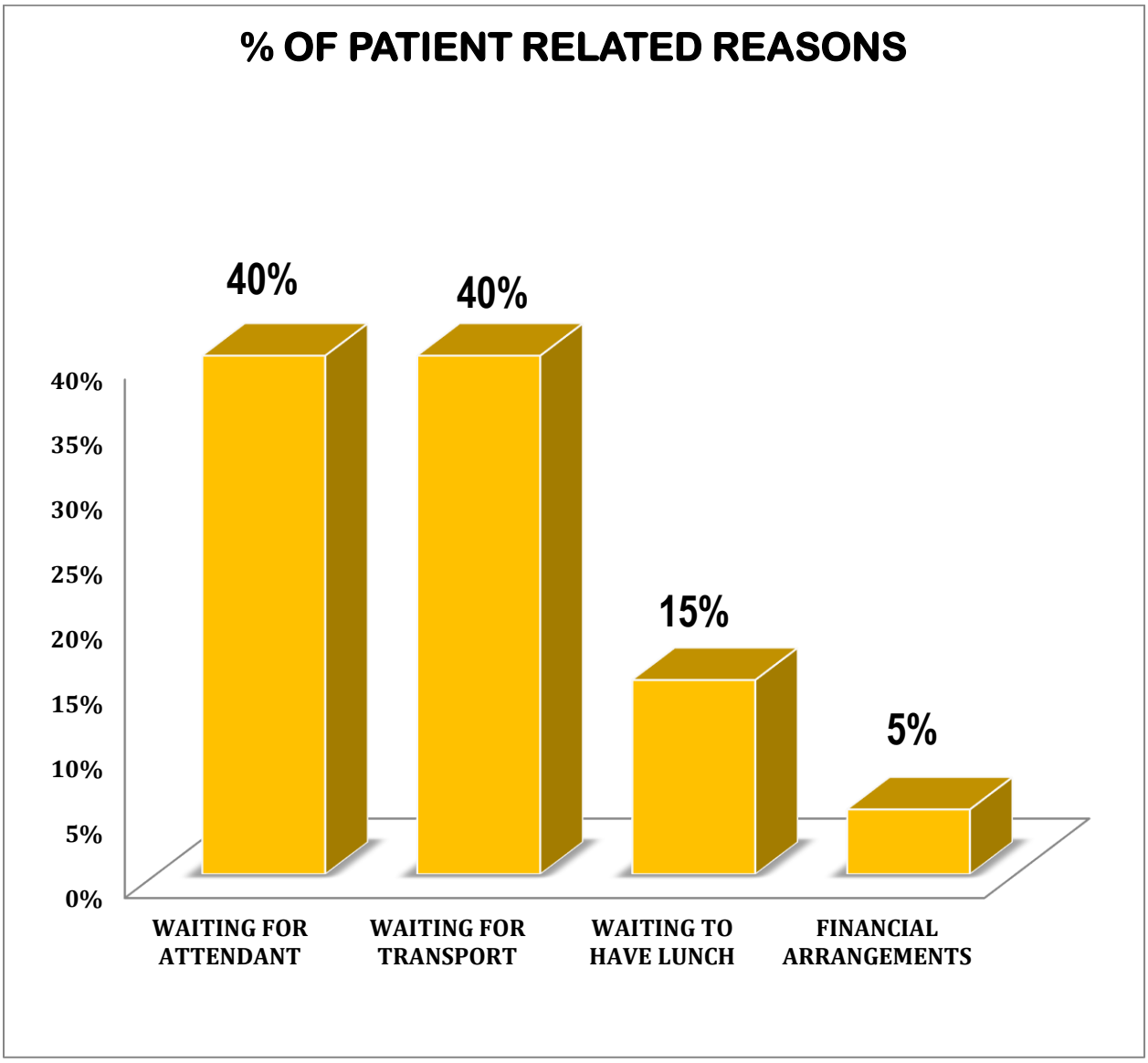


3) % DISTRIBUTION OF REASONS FOR DELAY IN DISCHARGE PROCESS



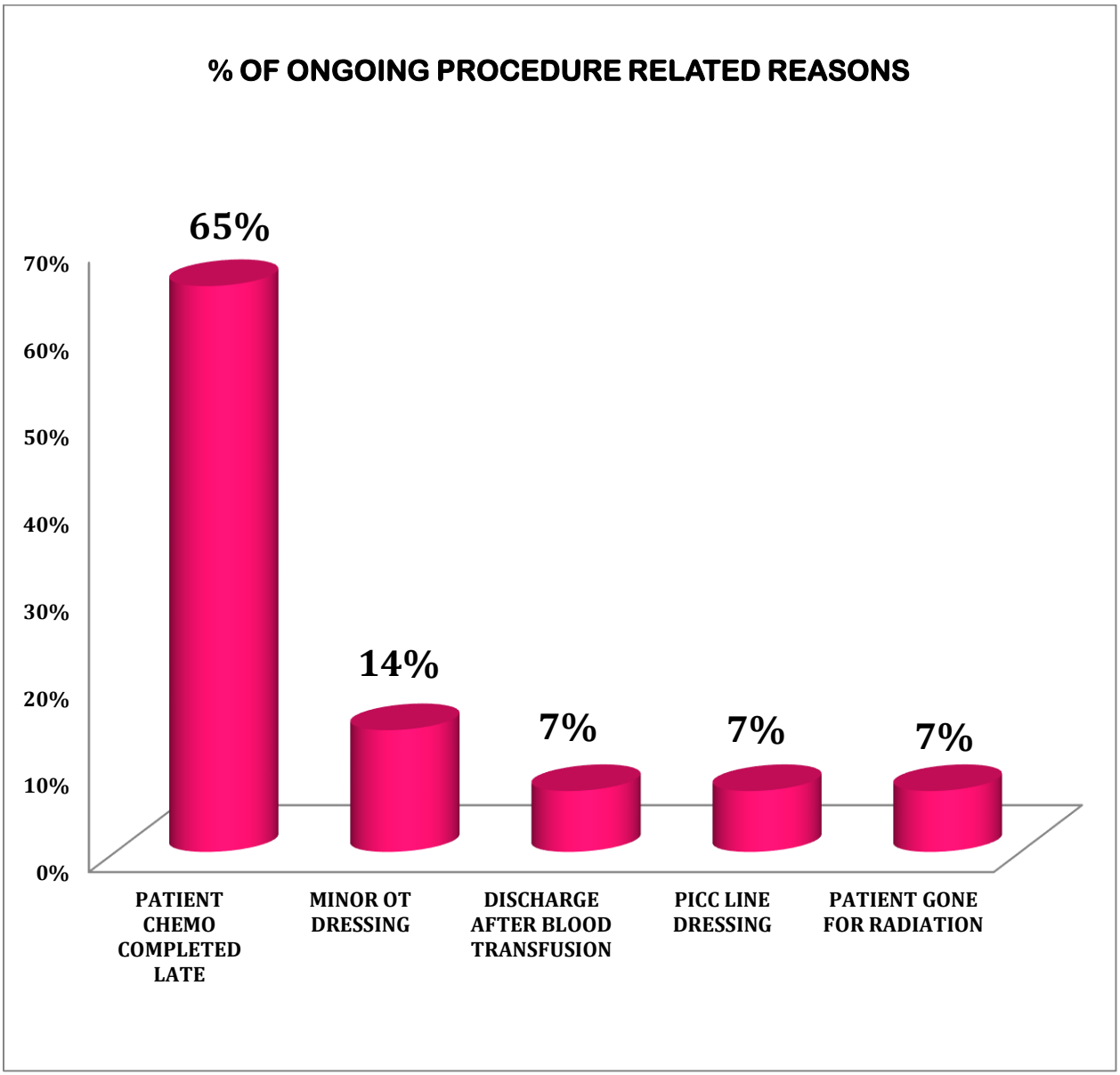
- Maximum delays were due to patient/attendant related reasons (29%).

4) **% DISTRIBUTION OF PATIENT RELATED REASONS FOR DELAYED DISCHARGES**



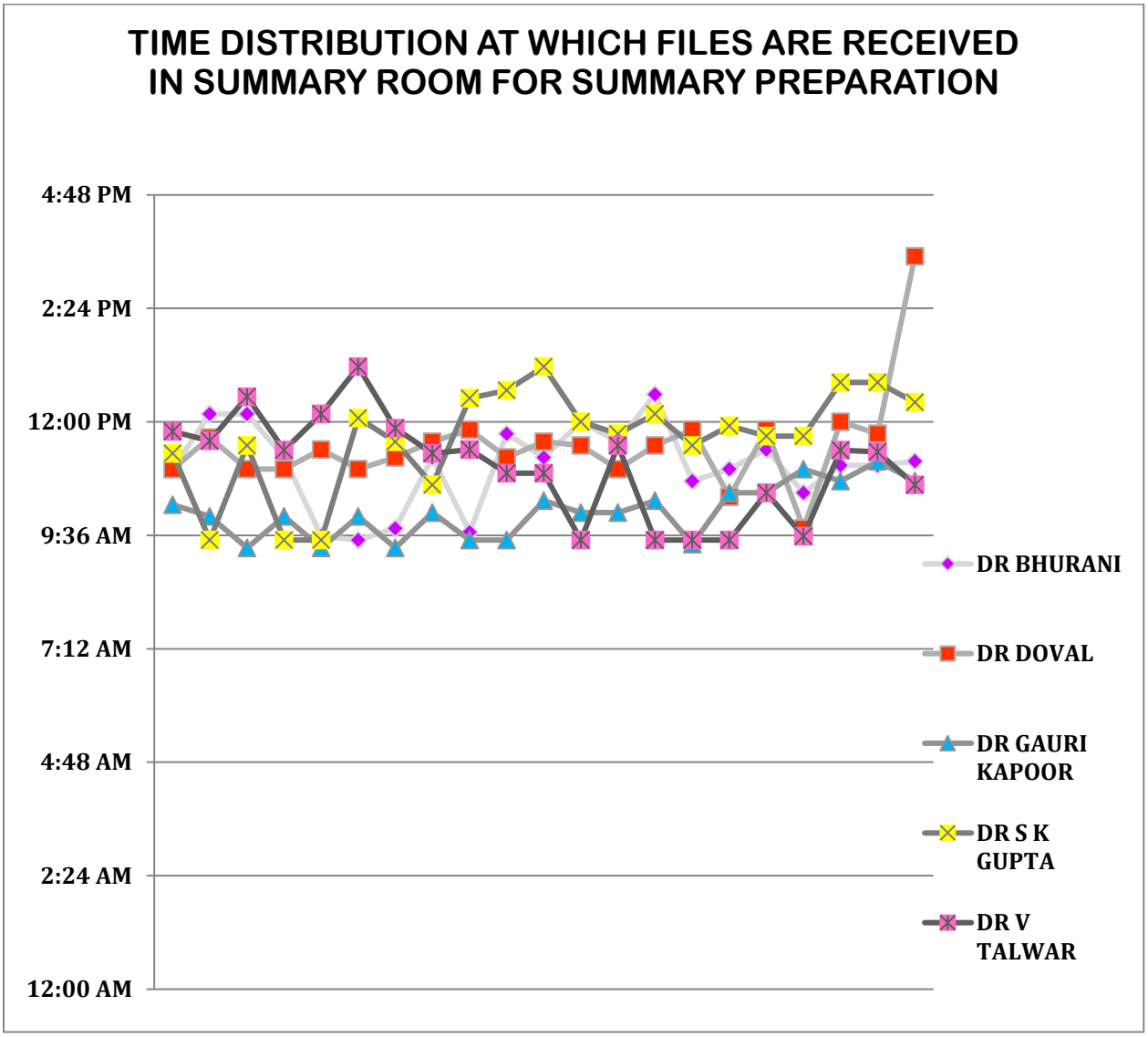
- Most common reason of patient related delay was that patient was either waiting for attendant or for transport.

5) % DISTRIBUTION OF PROCEDURAL DELAYED DISCHARGES



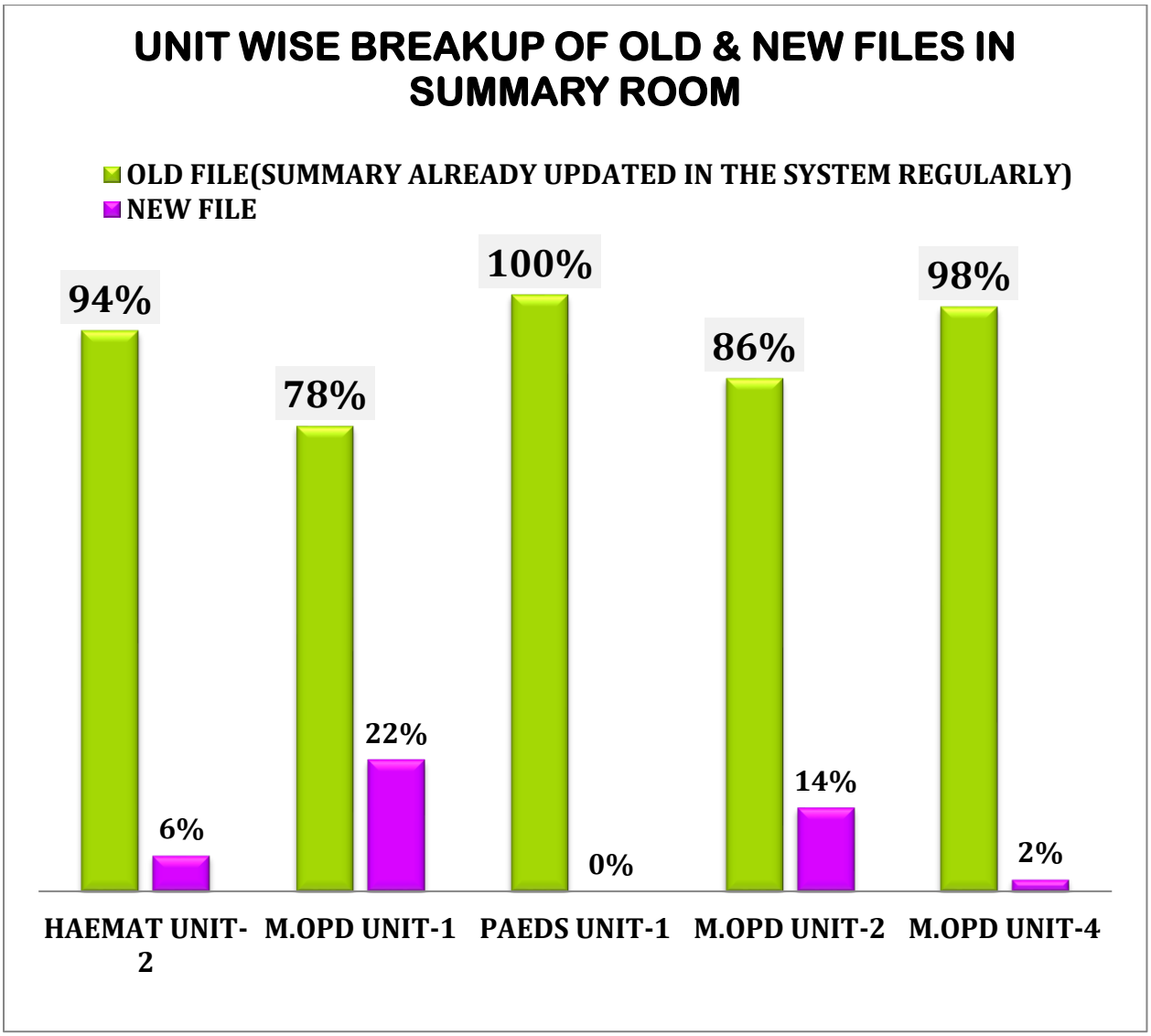

PHASE-2
(SUMMARY PREPARATION &
DISPATCH)

1) TIME DISTRIBUTIONN OF RECEIVING FILES IN SUMMARY ROOM FOR SUMMARY PREPARATION



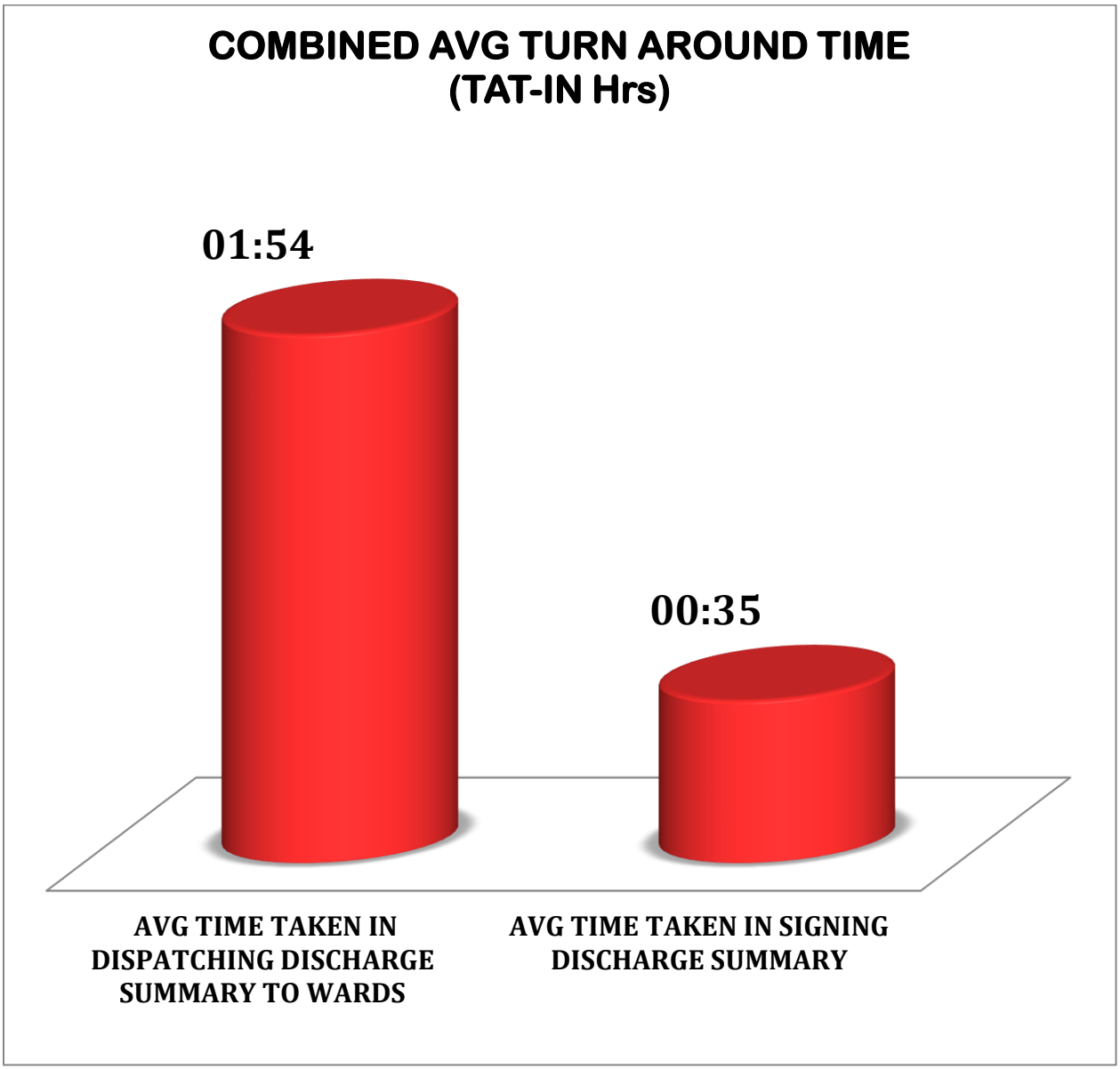
- Summary room staff was utilized mostly b/w 9:30 am- 1:10 pm.

2) UNITWISE BREAKUP OF OLD & NEW FILES COMING TO SUMMARY ROOM ON THE DAY OF DISCHARGE



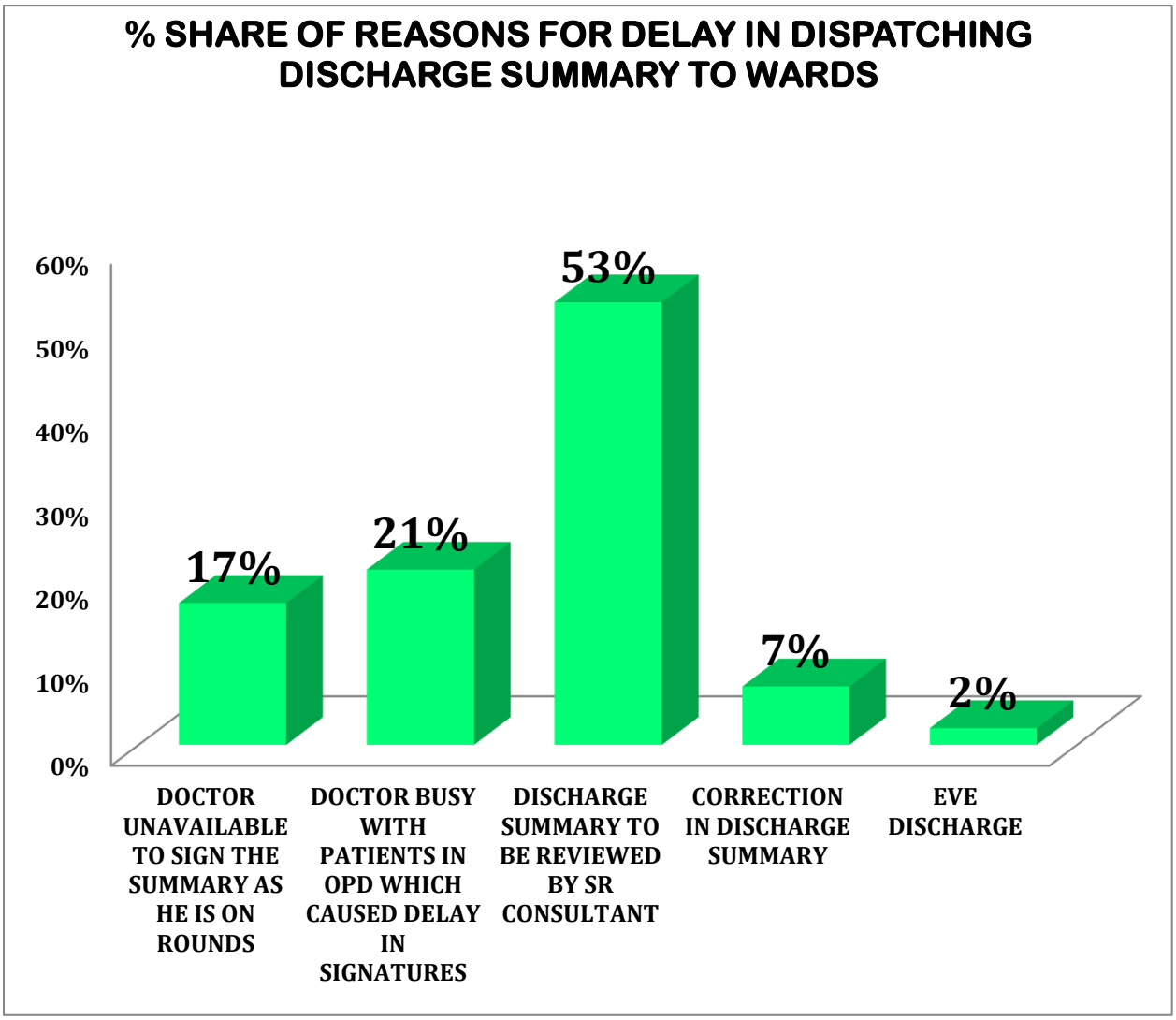
- On an avg, 90% of the files coming to summary room on the day of discharge were old ie summary was regularly updated in the system and only 10% were new.

3) AVG TURN AROUND TIME IN SUMMARY PREPARATION & DISPATCH



- On an avg, total time taken in dispatching discharge summary to wards was 1:54 hrs out of which avg time taken in getting the summary signed was 0:35 hrs .

4) % SHARE OF REASONS FOR DELAY IN DISPATCHING DISCHARGE SUMMARY TO WARDS

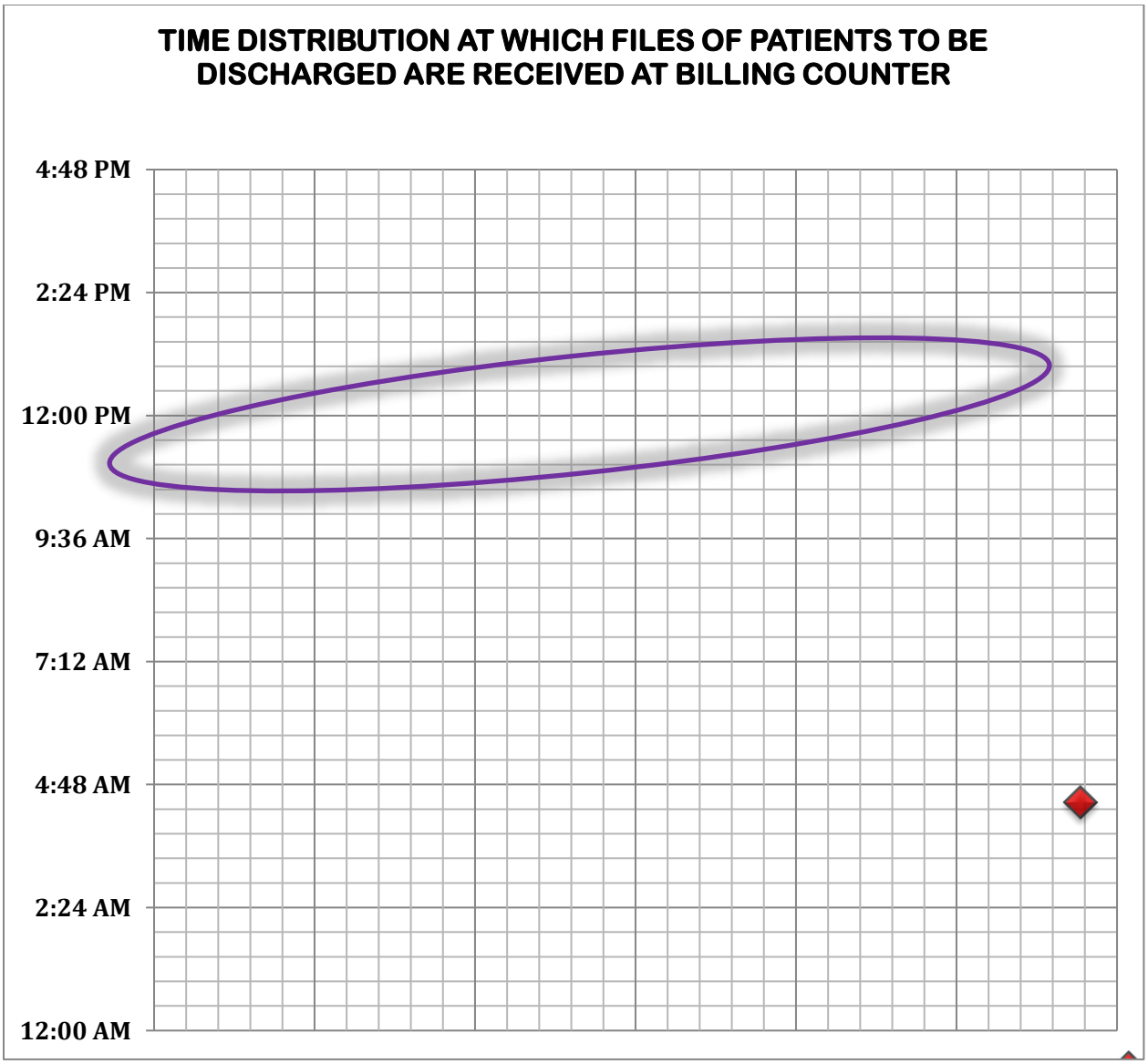


- In 53% of the cases, discharge summary was pending to be reviewed by sr consultant & the next most common reason was that doctor was busy in OPD which caused delay in signing the summary.

PHASE-3

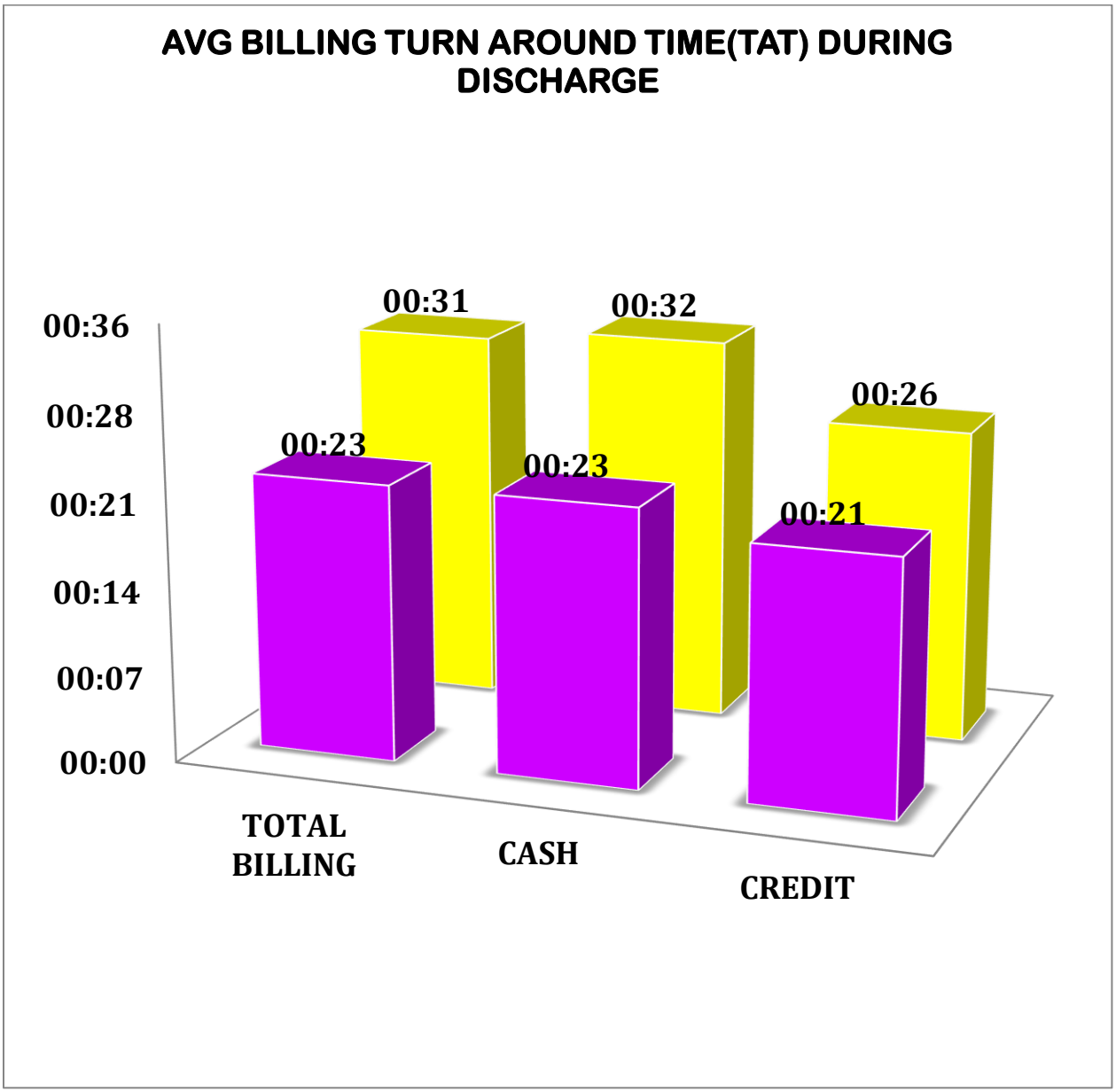
(BILLING)

1) TIME DISTRIBUTION AT WHICH FILES OF PATIENTS TO BE DISCHARGED ARE RECEIVED AT BILLING COUNTER



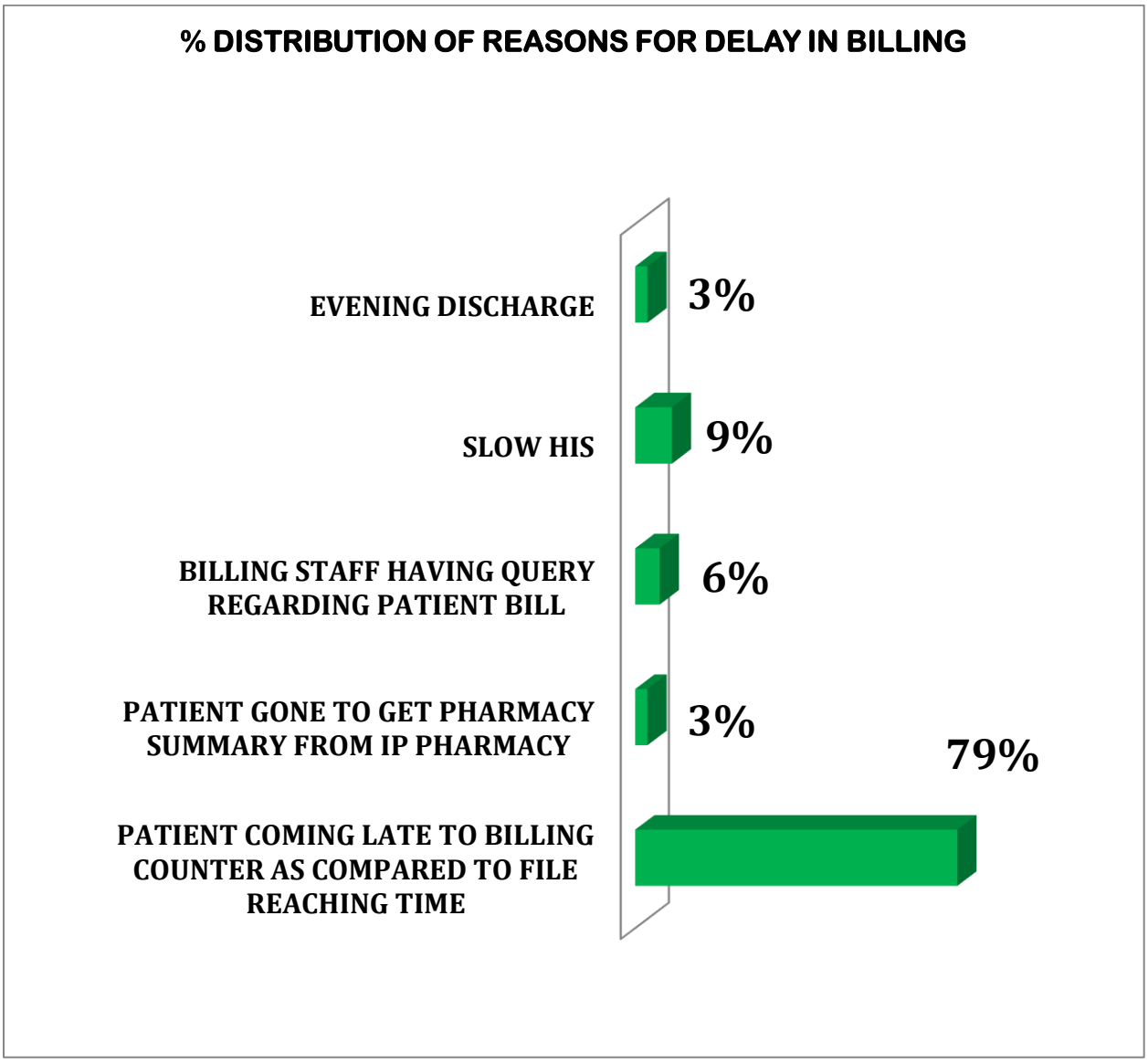
- Time at which files of patients to be discharged were received at billing counter was skewed b/w 10:40am to 1:00pm

2) AVG BILLING TURN AROUND TIME DURING DISCHARGE PROCESS



- Avg total billing TAT was 0:31 min out of which 0:23 min were taken in bill preparation.

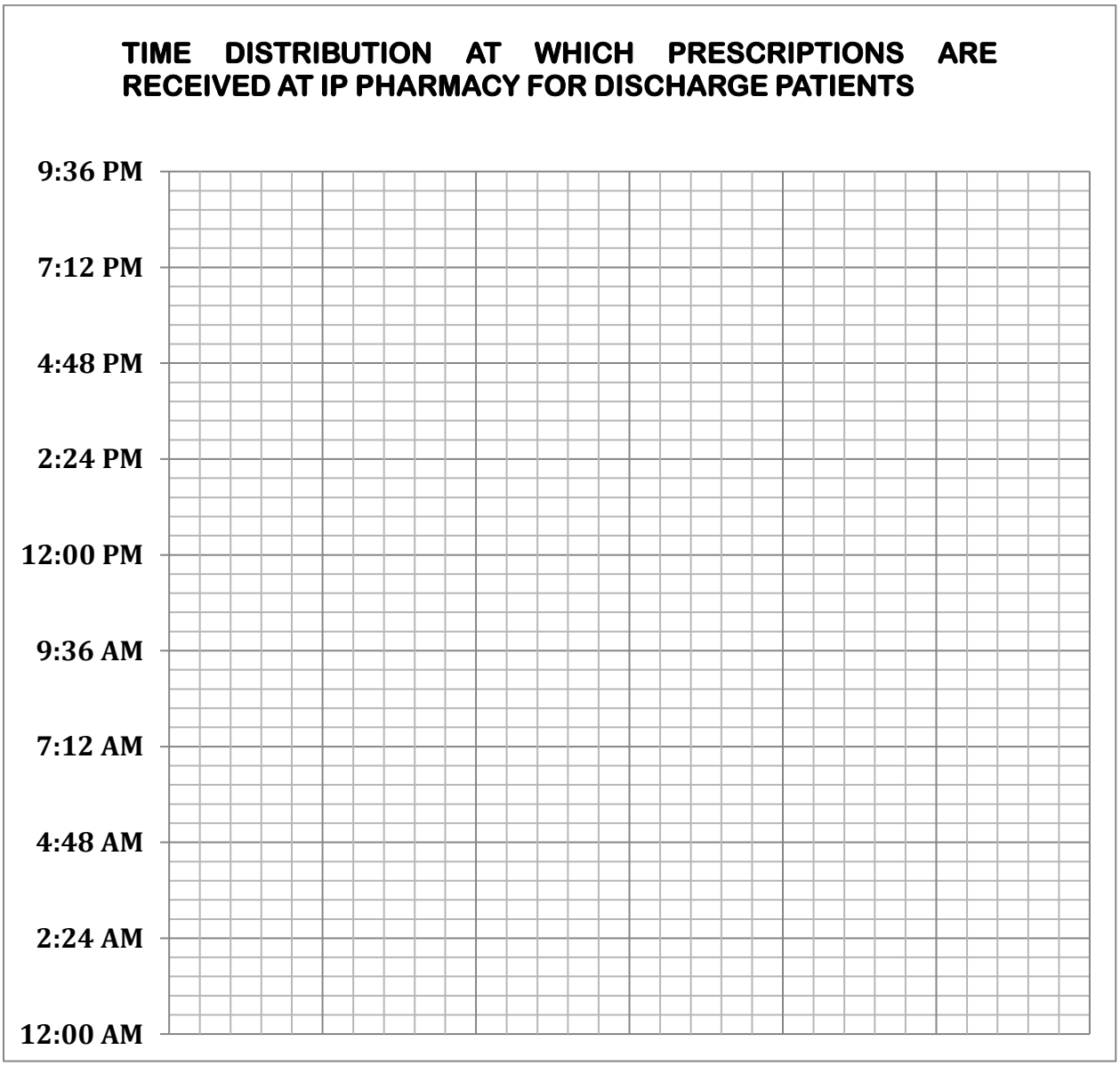
3) % DISTRIBUTIION OF REASONS FOR DELAY IN BILLING



- Major cause for delay in billing was the time lapsed b/w bill preparation and actual bill settlement by the patient.

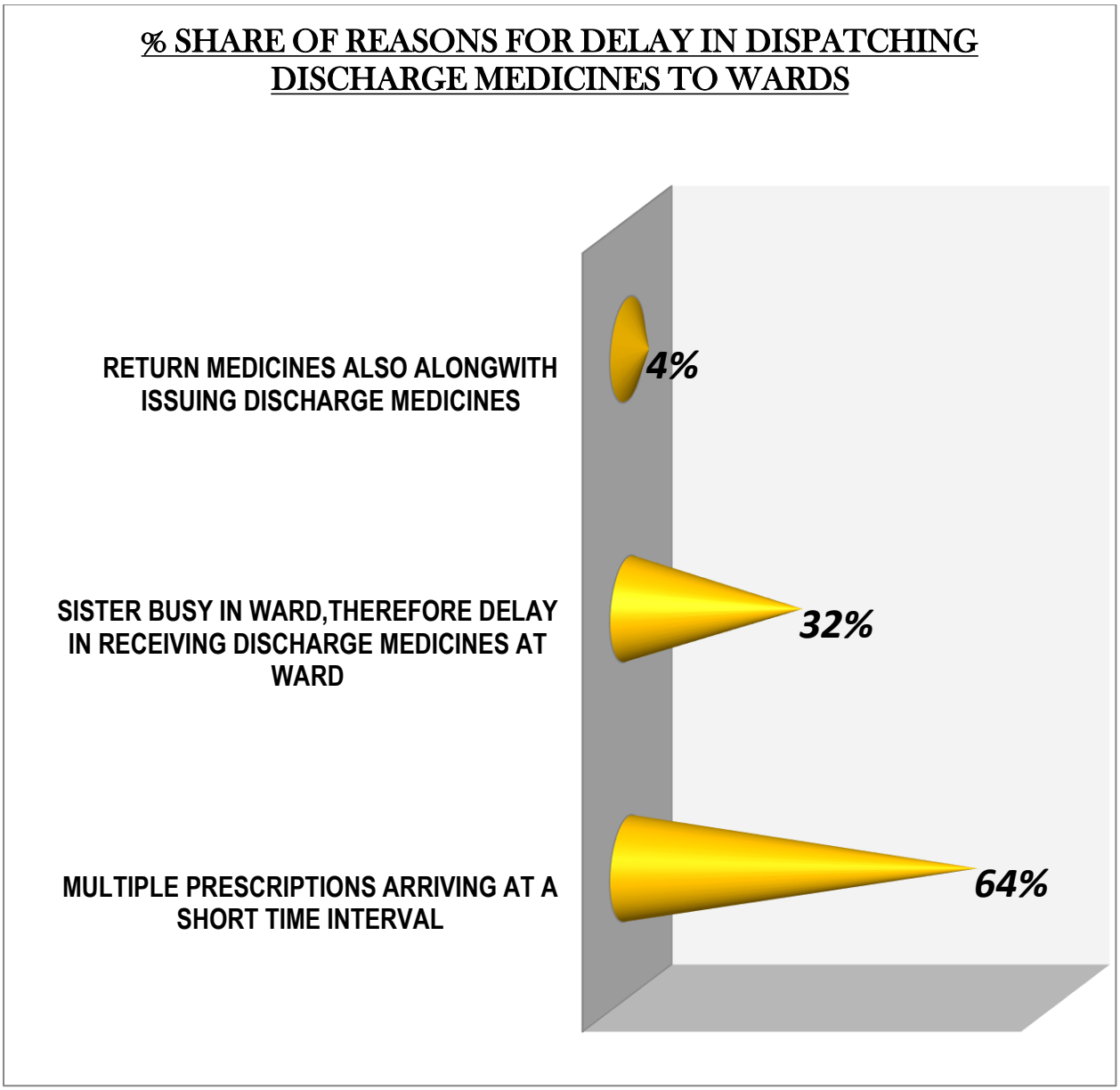

PHASE-4
(PHARMACY)

1) **<u>TIME DISREIBUTION AT WHICH PRESCRIPTIONS OF PATIENTS TO BE DISCHARGED ARE RECEIVED AT IP PHARMACY</u>**



- Prescriptions receiving time at IP Pharmacy was skewed b/w 10:45am to 3:00pm.

2) % SHARE OF REASONS FOR DELAY IN DISPATCHING DISCHARGE MEDICINES TO WARDS



- Tat for credit patients was 0:51 min & the major reason of delay at IP Pharmacy was because multiple prescriptions were received at a short time interval.

HEALTHCARE FAILURE MODE EFFECT ANALYSIS (FMEA)

- Healthcare Failure Modes and Effects Analysis (HFMEA) is a systematic, proactive method for evaluating a process to identify where and how it might fail, and to assess the relative impact of different failures in order to identify the parts of the process that are most in need of change. It may be defined as a "systematic method of identifying and preventing process and product problems before they occur
- It focus on preventing defects, enhancing safety, increasing positive outcomes and increasing patient satisfaction
- The objective of the HFMEA is to look for all ways a process or product can fail.

STEPS OF CONDUCTING HFMEA:

STEP 1: Gather a team and define the topic and scope if complex

STEP 2: Graphically Describe the Process (Use your current policy/procedure as your guide)

STEP 3: List the Failure Modes, their effects & severity for each process step (What could go wrong)

STEP 4: Identify causes for selected (highest scoring) Failure Modes - Why it went wrong

STEP 5: Conduct Effects Analysis for Failure Modes & their causes to score, prioritize, & select

STEP 6: Design the interventions for the selected high risk Failure Modes & Causes, assign the responsible staff, timeframes and obtain management support.

STEP 7: Identify outcome measures for the interventions

STEP 8: Implement and monitor

RISK PRIORITY NUMBER (RPN)

- Rate the severity of each effect of failure.
- Rate the likelihood of occurrence for each cause of failure.
- Rate the likelihood of prior detection for each cause of failure (*i.e.* the likelihood of detecting the problem before it reaches the end user or customer).
- RPN = Severity x Occurrence x Detection
- The RPN can then be used to compare issues within the analysis and to prioritize problems for corrective action.

Ranking the Probability:

- ✓ Ranks the failure mode on the projected frequency of the occurrence using a scale from 1 – 4
- ✓ 1 = Remote – Unlikely to occur in 5 – 30 years
- ✓ 2 = Uncommon – Possible to occur in sometime in 1 years
- ✓ 3 = Occasional – Likely to occur several times in 1 – 2 months
- ✓ 4 = Frequent – Likely to occur several times within a short period 1day -1 week

Ranking the Severity:

Rank the seriousness of the failure mode using a scale from 1 – 4:

- ✓ 1 = No harm - Does not affect patient
- ✓ 2 = Temporary Harm - Intervention and/or monitoring required
- ✓ 3 = Permanent Harm - Lessening of bodily functioning (sensory, motor, physiologic, or intellectual), disfigurement, surgical intervention required, or increased length of stay
- ✓ 4 = Death or major loss of function (sensory, motor, physiologic, or intellectual),- Rape, hemolytic transfusion reaction, surgery*/procedure on the wrong patient or wrong body part,* infant abduction or infant discharge to the wrong family

Ranking the ability to detect a failure mode:

The question is asked, "*Are any controls in place that detect a failure mode?"* Using a scale from 1 – 4 the ability to identify a failure mode is ranked:

- ✓ 1 = Very likely to be detected – there are checks and balances in place that exposes the failure mode (more than 5 steps in the process)
- ✓ 2 = Likely to be detected – With the use of the checks and balances in place the failure mode is likely to be detected (more than 3- 5 steps in the process)
- ✓ 3 = Unlikely to be detected – detection of a failure mode not likely to be detected (1 - 2 steps in the process)
- ✓ 4 = Very unlikely to be detected – There are no checks and balances in place to detect of a failure mode – only a one step process

HFMEA Respondents: MS, DMS, NS, Quality Manager, Quality Executive, Ward Secretaries

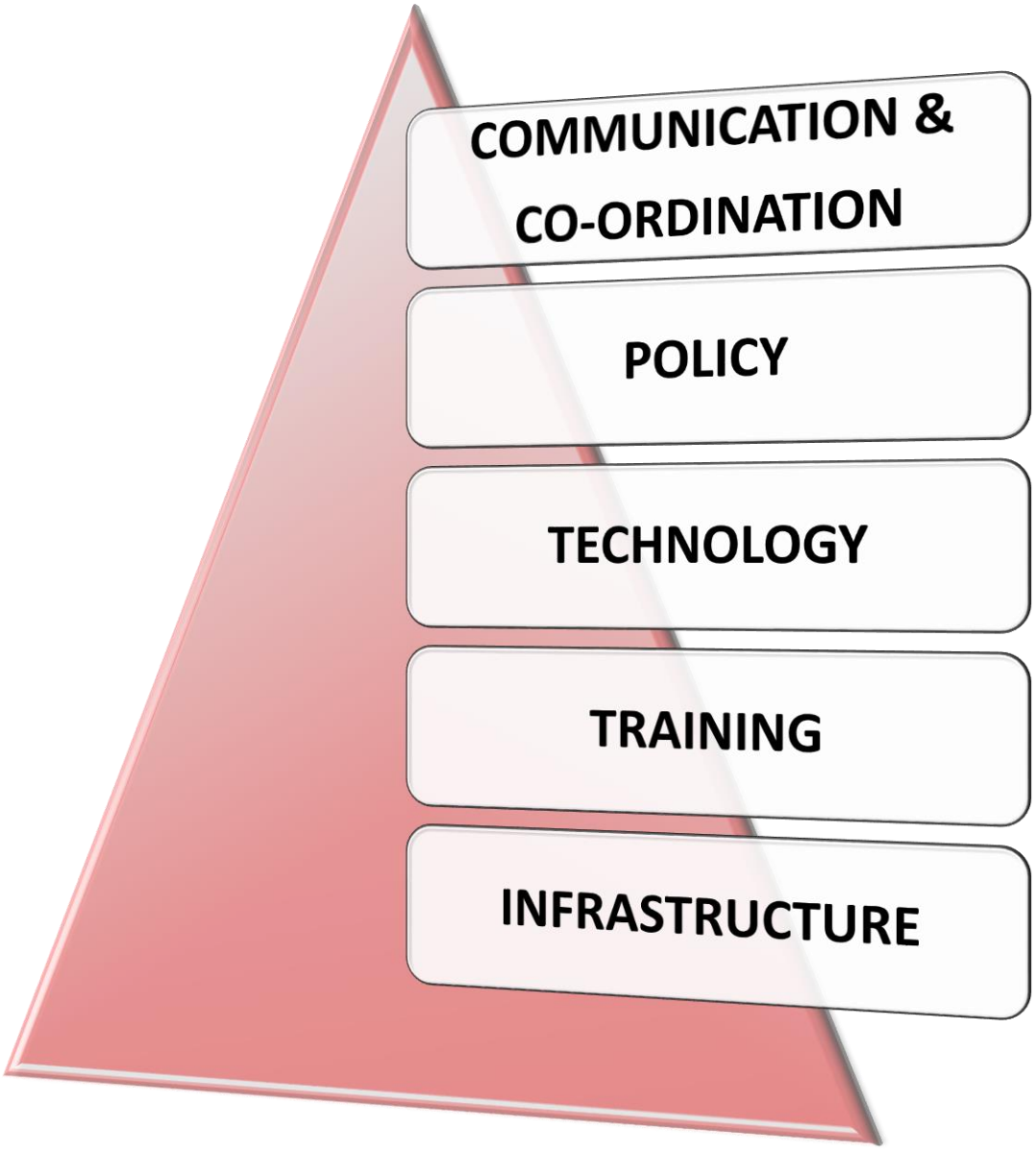
POTENTIAL FAILURE MODES	POTENTIAL EFFECTS OF FAILURES	SEVERITY(1-10)	PROBABILITY OF FAILURE OCCURENCE(1-10)	PROBABILITY OF DETECTION(1-10)	RPN(S*O*D)	RECOMMENDATIONS
LATE MORNING ROUNDS BY THE DOCTOR	LATE SUMMARY PREPARATION-DELAYED DISCHARGES	8	10	4	320	DOCTOR ROUNDS SHOULD FINISH BY A STIPULATED TIME SAY 11 AM.
DOCTORS BUSY IN OPD IMMIDIATELY AFTER ROUNDS	DELAY IN SIGNING THE SUMMARY-DELAYED DISCHARGES	7	8	5	280	DESIGNATING JR FOR REVIEWING DISCHARGE SUMMARIES
CORRECTIONS IN DISCHARGE SUMMARY PREPARED BY SUMMARY EXECUTIVE	DELAY IN SIGNING THE SUMMARY-DELAYED DISCHARGES	5	5	5	125	UPDATION OF DIS SUMMARY REGULARLY INTO THE SYSTEM
NEW PT FILE FOR SUMMARY PREPARATION	MORE TIME TAKEN IN SUMMARY PREPARATION-DELAYED DISCHARGES	5	5	5	125	UPDATION OF DIS SUMMARY REGULARLY INTO THE SYSTEM
LACK OF ADEQUATE MANPOWER AS COMPARED TO THE WORKLOAD IN PEAK HOURS(In respect to Housekeeping)	DELAYED DISCHARGES	7	7	3	147	DEFINING ROLES & RESPONSIBILITIES. KEEPING TRACK OF ACCOUNTABILITY OF WARD BOYS

LACK OF PROACTIVE APPROACH IN ROUTINE TASKS RELATED TO PATIENT CARE LIKE CLEANING & BED PREPN IN PATIENT ROOMS	DELAYED ADMISSIONS	6	6	5	180	DEFINING ROLES & RESPONSIBILITIES. KEEPING TRACK OF ACCOUNTABILITY OF WARD BOYS, INCORPORATING HUMANE TOUCH
MEDICATION DISPATCH ERROR	DELAYED DISCHARGES	8	7	7	392	DEVISING A CHECKLIST LABELLING PT NAME, CR NO, ROOM NO, TREATING DOCTOR
HIGH WAITING TIME IN ISSUING & RETURNING THE MEDICINES	DELAYED DISCHARGES	8	8	3	192	SENDING PRESCRIPTIONS OVER SPREAD OUT TIME TO DECREASE THE LOAD AT ONE POINT OF TIME
DELAY IN DISPATCHING D/S MEDICINES	DELAYED DISCHARGES	9	9	3	243	SENDING PRESCRIPTIONS OVER SPREAD OUT TIME TO DECREASE THE LOAD AT ONE POINT OF TIME
ERRORS & SUBSEQUENT CORRECTIONS IN THE FINAL BILL	LATE BILL PREP-DELAYED DISCHARGES	5	5	6	150	MANDATION OF GIVING PROVISIONAL BILL ON OR BEFORE THE DAY OF DISCHARGE BY WARD SECRETARIES
SENDING CASH PT FILES DIRECTLY TO WARD FROM SUMMARY ROOM FOR BILLING RATHER THAN SENDING IT TO BILLING FROM SUMMARY ROOM	LATE BILL PREP-DELAYED DISCHARGES	8	9	8	576	SENDING CASH PTS FILES DIRECTY T BILLING FROM SUMMARY ROOM
IN-PATIENT CASH COUNTER PARTIALLY OPERATIONAL	LATE BILL PREP-DELAYED DISCHARGES	5	6	6	180	MAKING IP-CASH COUNTER FULLY FUNCTIONAL
LANGUAGE BARRIERS (Nurses & Patients)	MORE TIME TAKEN IN THE WHOLE DISCHARGE PROCESS	8	7	3	168	TRAINING OF NURSES
D/S COUNSELLING (the hospital policies and procedures related to Discharge) NOT DONE	DISCREPANCY IN DISCHARGE & UNNECESSARY ATTENDANT MOVEMENT-DELAYED DISCHARGES	8	9	2	144	EXPLANATION OF WHOLE DISCHARGE PROCESS IN DETAIL TO THE PATIENT/ATTENDANT BY WARD SECRETARIES
INCOMPLETE INFORMATION ON TRANSFER B/W SERVICES (Wards, Summary section, Billing section etc.)	DELAYED DISCHARGES	8	9	3	216	INTER-DEPARTMENTAL MEETINGS TO EXPLAIN ROLES & RESPONSIBILITIES OF STAFF TO EACH OTHER FOR BETTER CO-ORDINATION AND SMOOTH FLOW OF INFORMATION

UNPLANNED DISCHARGES (can be due to uncertainty of Pt Condition for discharge or simply miscommunication/ Inadequate communication b/w the treating team and Ward secretary)	DELAYED DISCHARGES	7	9	1	63	MAKING MORE & MORE DISCHARGES PLANNED
NO REINFORCEMENT FOR PHYSICAL DISCHARGE BY WARD SECRETARIES AFTER FINAL BILL SETTLEMENT	DELAYED ADMISSIONS	8	8	5	320	INCORPORATION OF REINFORCEMENT FOR PHYSICAL DISCHARGE IN DISCHARGE POLICY
DELAY IN PHYSICAL DISCHARGE DUE TO / LOGISTICS/ TRAVEL etc	DELAYED DISCHARGES	8	9	2	144	MAKING MORE & MORE DISCHARGES PLANNED, REINFORCEMENT FOR PHYSICAL DISCHARGE
STAFF ABSENTEEISM (In respect to Ward Secretaries)	UNCOORDINATED DISCHARGE PROCESS-DELAYED DISCHARGES	6	5	2	60	MAKING PROCESSES SYSTEM DEPENDANT INSTEAD OF PEOPLE DEPENDANT-TRAINING OF STAFF FOR MULTI-TASKING
HIS SYSTEM SLOW, NETWORK RELATED DELAYS	SLOW SYSTEM AT NURSING STATION/PHARMACY/ BILLING etc. RESULTING IN LATE SUMMARY/ BILL PREP-& THEREFORE-DELAYED DISCHARGES	7	7	4	196	IMPLEMENTATION OF IN-PATIENT HIS MODULE IN VARIOUS DEPARTMENTS SO THAT DISCHARGE PROCESS CAN BE TRIGERRED ON ITS OWN


RECOMMENDATIONS

PRORITIZATION OF EVENTS IN IMPROVING DISCHARGE PROCESS

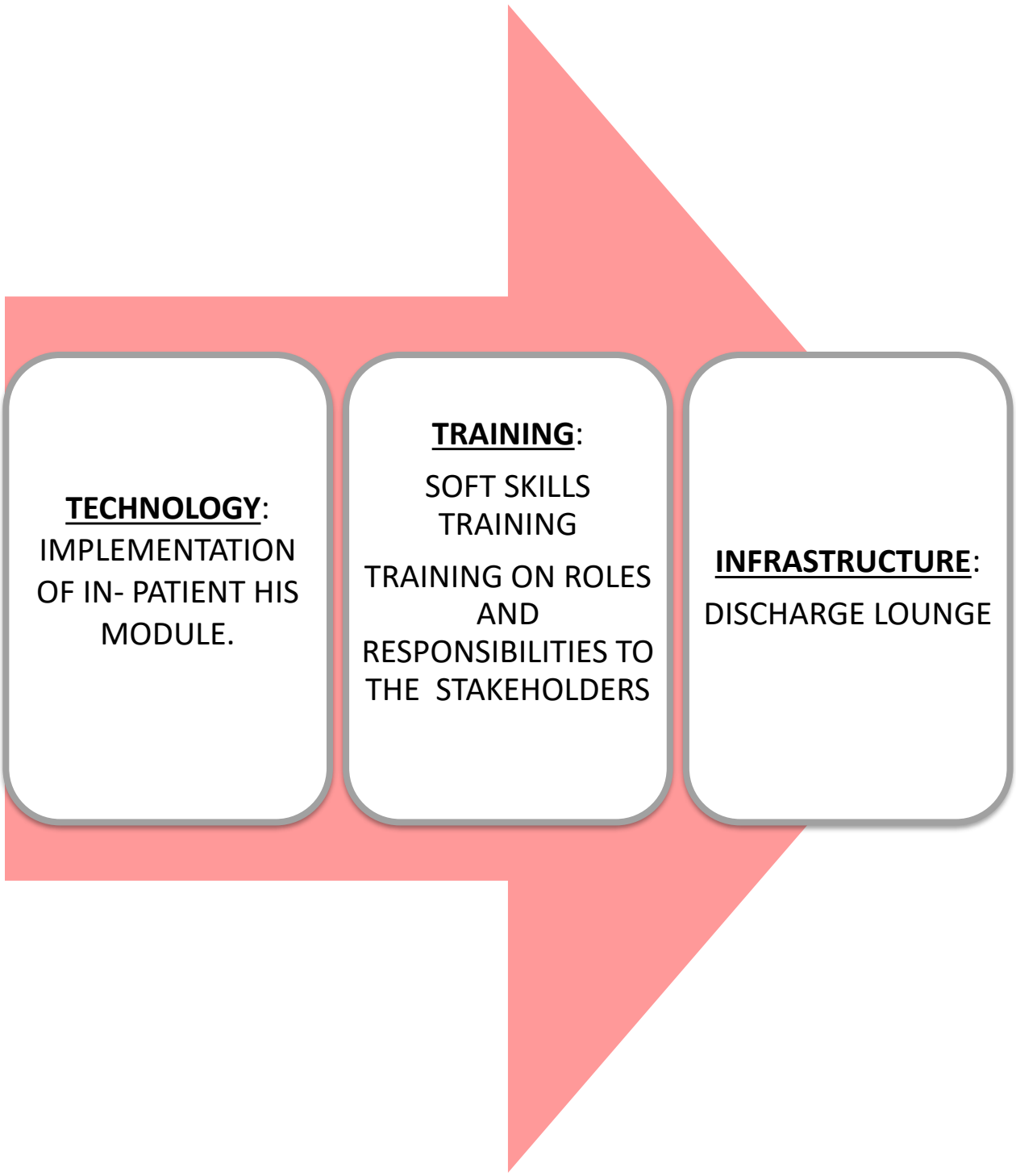


COMMUNICATION & COORDINATION

- INTER-DEPARTMENTAL MEETINGS TO EXPLAIN ROLES & RESPONSIBILITIES OF STAFF TO EACH OTHER FOR BETTER CO-ORDINATION AND SMOOTH FLOW OF INFORMATION
- DISCHARGE PLANNING
  (WRITTEN COMPREHENSIVE DISCHARGE PLAN)
- CLEAR SIGNAGES ON EACH BILLING COUNTER
- CIRCULAR GLASS WINDOW AT BILLING COUNTERS
- DETAILED PRESCRIPTIONS SENT TO PHARMACY

POLICY

- DOCTORS ROUNDS TO FINISH BY A STIPULATED TIME SAY, 11 A.M
- DESIGNATING JR FOR REVIEWING DISCHARGE SUMMARIES
- MAKING CASH COUNTER AT BILLING FULLY FUNCTIONAL
- SENDING ALL CASH FILES DIRECTLY TO BILLING FROM SUMMARY
- PHYSICAL DISCHARGE REINFORCEMENT BY WARD SECRETATIES
- DETAILED PROVISIONAL BILL TO PT ON DAILY BASIS DURING HOSPITALIZATION
- UPDATION OF DIS SUMMARY REGULARLY INTO THE SYSTEM
- WARD SECRETARIES TO UPDATE DOCTOR'S VISITS IN HIS
- ROTATION OF WS


TECHNOLOGY:
IMPLEMENTATION OF IN- PATIENT HIS MODULE.
TRAINING:
SOFT SKILLS TRAINING
TRAINING ON ROLES AND RESPONSIBILITIES TO THE STAKEHOLDERS
INFRASTRUCTURE:
DISCHARGE LOUNGE

RECOMMENDATIONS BASED ON RCA & FMEA

CO ORDINATION & COMMUNICATION

1) The interdepartmental nature of the patient flow continuum cause delays and backlogs throughout the hospital, including the emergency department, post-anesthesia care and medical surgical units, admitting lobby, and, ultimately, back-up on floors. Backlogs can lead to unacceptably long wait times in the emergency department, diversions to competitors' hospitals, surgical delays and overtime of high-cost surgical staffing. Therefore, inter-departmental co-ordination b/w ward secretary, doctors, billing, pharmacy & summary room should be improved by organizing Inter and Intra-departmental meetings. Here, the staff should be stressed upon their roles & responsibilities and also each other's roles so that they understand Discharge process in a holistic manner and work towards its timeliness effectively.

2) Explain the discharge process to the patient as well as attendant in detail to reduce his/her unnecessary movement and further delay.

3) Final orders should be taken from Consultant either in evening rounds or over phone like:

- Investigations
- Cross referrals
- Medications

4) Appointing a Change Agent to facilitate process improvement, developing a Patient Handover Information Sheet, requesting ward staff to nominate an estimated discharge time, and design a daily discharge alert sheet that will include an expected date of discharge.

5) Ward Secretary should ensure that all orders are complete & reports received and put up in patient file before morning rounds so that doctor can advise discharge at once without any delay.

6) Housekeeping—Maintain a register of Out time/ In time for ward boys.

7) Cut a circular glass window at different billing counters to ensure clear and effective communication across the counter.

8) Sisters should write details on the prescriptions being sent to pharmacy clearly to avoid any confusion and speed up the process like: Room No, Discharge Medicines…

9) Sisters should be given strict instructions to receive medicines immediately as the pharmacy staff reach nursing counter.

10) Put up clear instructions on each billing counter to minimize queries being raised.

- ❖ Cash Billing
- ❖ Credit Billing
- ❖ Cash Deposition Counter
- ❖ Bill Endorsing Counter

POLICY

1) Every discharge must have a written discharge plan that is comprehensive in scope and that addresses medications, therapies, dietary and other lifestyle modifications, follow-up care, patient education, and instructions about what to do if the condition worsens.

2) Make IP Cash deposition counter at Billing fully functional to minimize patient interference in OPD billing.

3) Doctor rounds should start at 9:00 am and end by a stipulated time, say 11:00am.

4) A Junior resident should be designated under different Medical Units respectively for reviewing discharge summaries. Also, he/she should be given the responsibility of getting it signed and timely dispatch.

5) Discharge summaries should be feeded into the system on daily basis so that less time is taken to type it on the day of discharge.

6) Cash files should directly go to billing from Summary room after summary preparation for Final Bill Settlement instead of 1st coming to resp ward and then going to billing.

7) A leader can be appointed among the transcriptionists on 3monthly rotation basis and assigned the responsibility of summary preparation and its signing and timely dispatch.

8) A copy of Provisional Bill should be given to the patient as and when the bill is updated so that he/she gets enough time to make arrangements on the day of discharge. This will prevent delays to a large extent.

9) Patients should be reinforced for physical discharge by ward secretary after final bill settlement so that the waiting time for admissions can be reduced.

10) Reduce the step of entering doctor visits into HIS at billing counter to save time and speed up the process. Instead it can be entered by the ward secretaries at their respective nursing counters.

11) There should be rotation of ward secretaries on different floors to make the process "System Dependent" instead of people dependent.

12) Maintain a register to make account of dispatching discharge medicines from pharmacy and their receiving in wards.

13) Assigning a staff for : Making entries in the register
: Taking back return medicines

TECHNOLOGY

1) Implement -In Patient HIS Module in the hospital so that real time discharge data about investigations & lab tests performed, doctor visits, pharmacy, summary etc are available at every source enabling faster communication and workflow.

TRAINING

1) Training should be given to staff involved in the entire Discharge Process which will result in enhanced patient satisfaction. This should include training on soft skills, delineated roles & responsibilities, workflows.

INFRASTRUCTURE

1) **Discharge Lounge**- Expanding capacity by adding beds can be a costly way to address throughput issues. A discharge lounge is simply an area where patients can wait for prescriptions, follow-up instructions, transportation home, and financial clearance. It is an area clinically monitored where patients can rest comfortably and be served a hot meal.

Discharge lounges can often satisfy **two primary purposes**:

a) Low-end care patients already discharged and waiting for transport can have an effective, clinically monitored holding place, thereby freeing up beds for acute care and new patients.

b) Discharge lounges can be used for financial counseling functions and become an integral part of the discharge process

When setting up a discharge lounge, it is important to consider location for the lounge. Area should be such that it maintains the patient's dignity, comfort and safety until final discharge. Additionally, it should be placed close to admission or the emergency department. Hiding the lounge in an unpopular area will increase reluctance to use the lounge by clinical staff.

When introducing the discharge lounge to the staff it is important to **outline benefits**:

- Discharges to the lounge should occur primarily on the day shift when both nursing and ancillary staffing levels are the highest;
- Greater efficiency, including fewer telephone inquiries about room readiness;
- Increased patient satisfaction;
- Placement based on acuity, which improves patient care; and
- The lounge can be staffed during saturation and does not necessarily have to be operational 100% of the time.

Elements of a discharge lounge often include the following:

- Recliner, personal belonging cart
- Oral medication access (PYXIS)
- General/emergency medical equipment

- Refrigerator with snacks
- Bathroom
- Entertainment (TV, phones, Internet access, magazines, patient/medical information)
- Workstations
- Space for discharge lounge – low visibility; limited access to admission/discharge/ED.

First steps in setting up a lounge include the following:

- Produce a clear operational policy
- Disseminate information as widely as possible
- Produce a patient informational leaflet
- Choose area with easy access
- Ensure that the lounge becomes an integral part of discharge procedure for all appropriate patients.

ACTIONS TAKEN FROM THE RECOMMENDATIONS GIVEN

CO ORDINATION & COMMUNICATION:

1) Improve Inter-departmental co-ordination b/w ward secretary, doctors, billing, pharmacy & summary room by organizing Inter and Intra-departmental meetings. Here, the staff should be stressed upon their roles & responsibilities and also each other's roles so that they understand Discharge process in a holistic manner and work towards its timeliness effectively.
2) Cut a circular glass window at different billing counters to ensure clear and effective communication across the counter.
3) Put up clear instructions on each billing counter to minimize queries being raised.
    - ❖ Cash Billing
    - ❖ Credit Billing
    - ❖ Cash Deposition Counter
    - ❖ Bill Endorsing Counter

POLICY

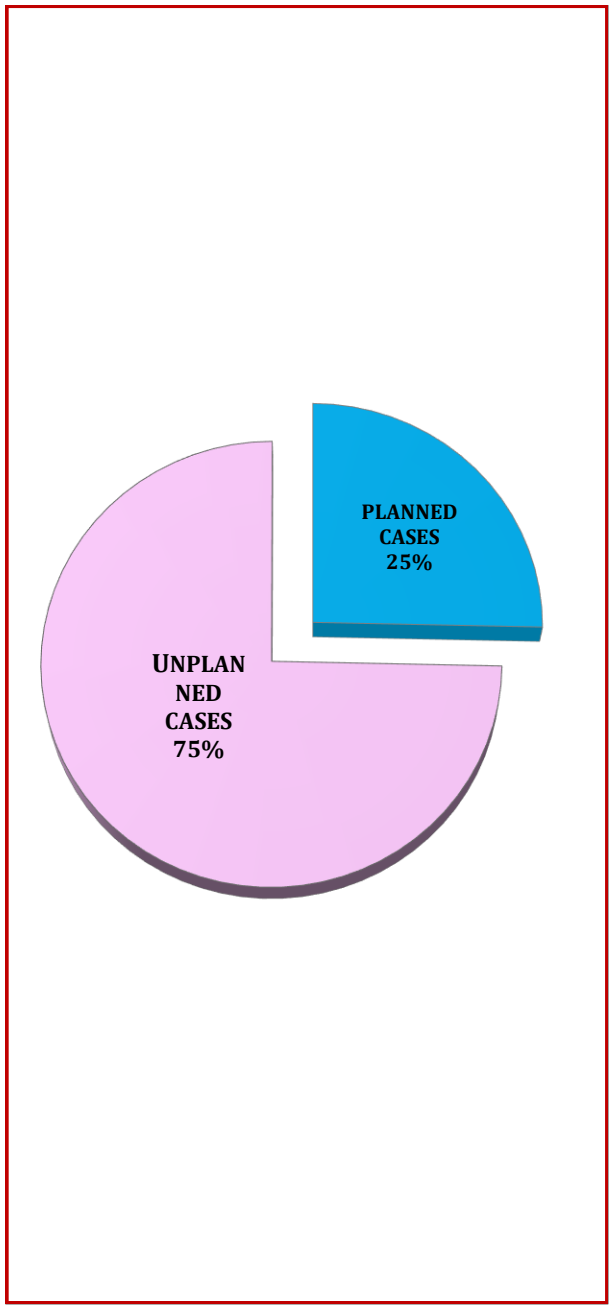
1) Make adjacent cash deposition counter at Billing fully functional to minimize patient interference in OPD billing.
2) Discharge summaries should be feeded into the system on daily basis so that less time is taken to type it on the day of discharge.
3) Cash files should directly go to billing from Summary room after summary preparation for Final Bill Settlement instead of 1st coming to resp ward and then going to billing.

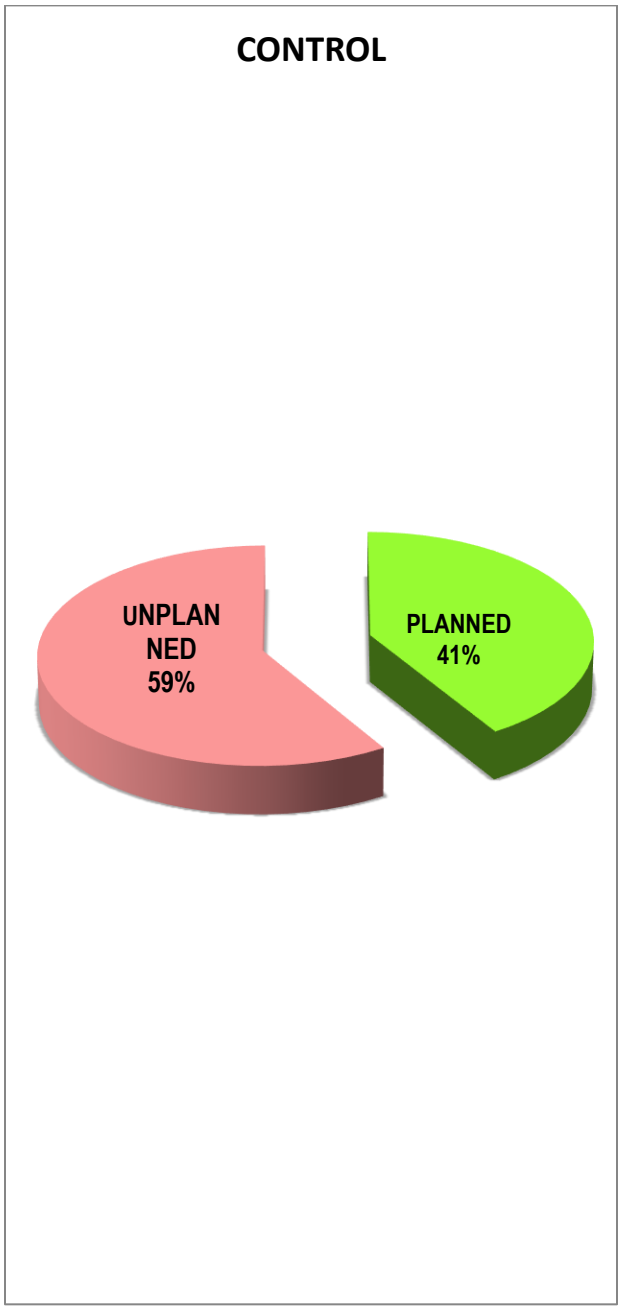
4) A copy of Provisional Bill should be given to the patient as and when the bill is updated so that he/she gets enough time to make arrangements on the day of discharge. This will prevent delays to a large extent.
5) Patients should be reinforced for physical discharge by ward secretary after final bill settlement so that the waiting time for admissions can be reduced.
6) There should be rotation of ward secretaries on different floors to make the process "System Dependent" instead of people dependent.

CASE VS CONTROL PHASE

RESULT & FINDINGS

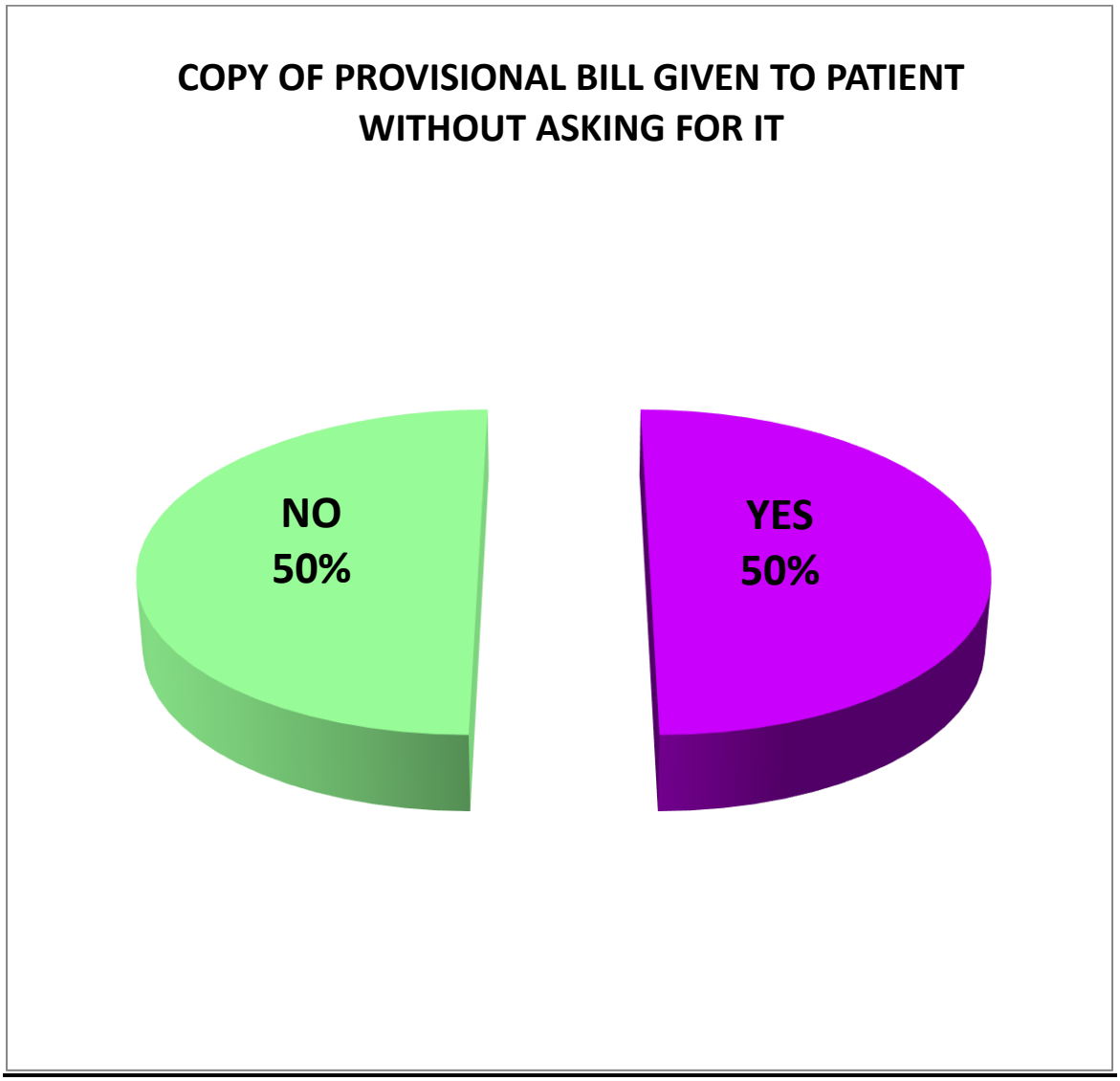
1) PLANNED Vs UNPLANNED





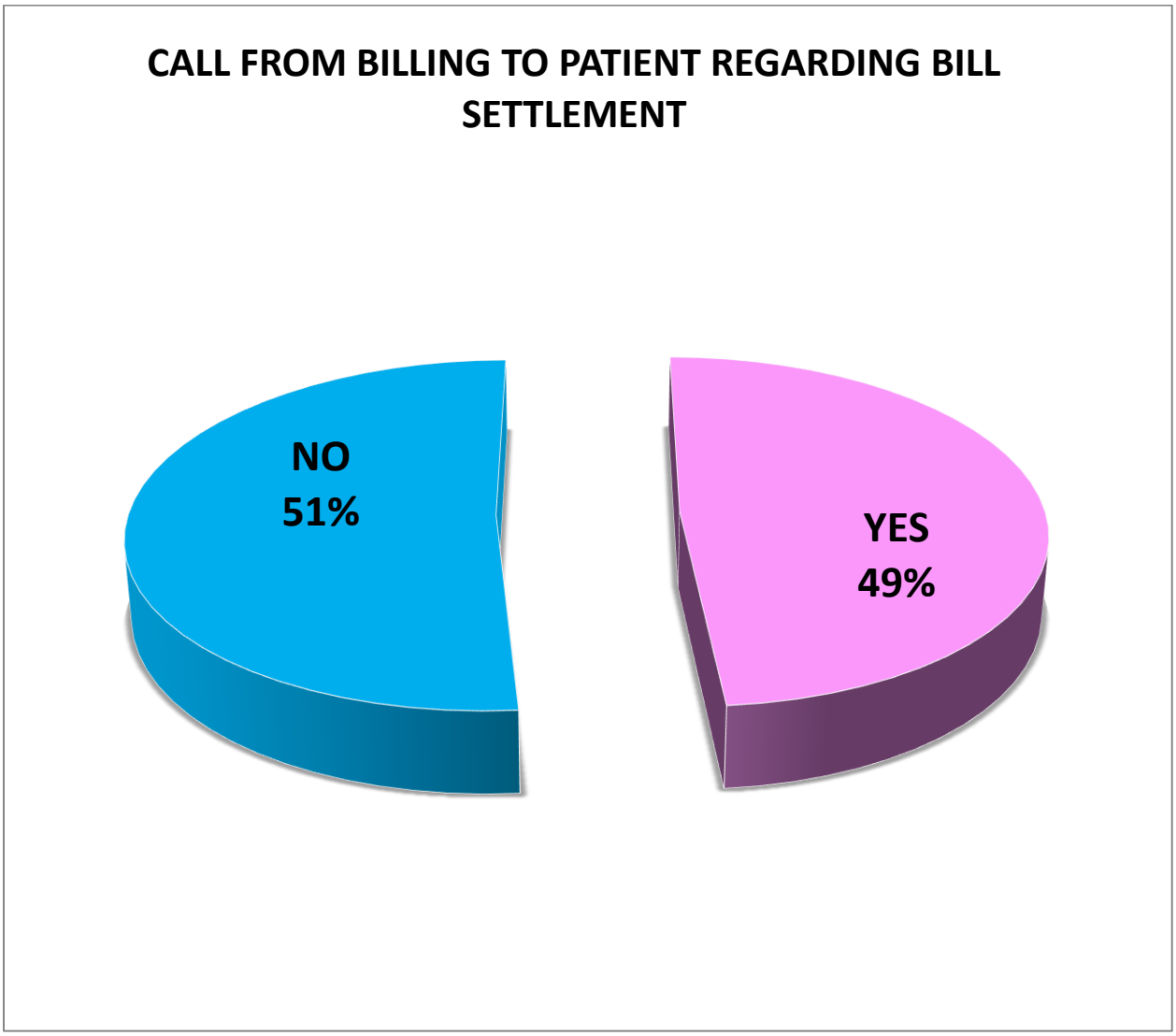
- % Of planned discharges have increased from 25% to 41% during control phase.

2) **% OF CASES IN WHICH A COPY OF PROVISIONAL BILL IS GIVEN TO PATIENT WITHOUT ASKING FOR IT**



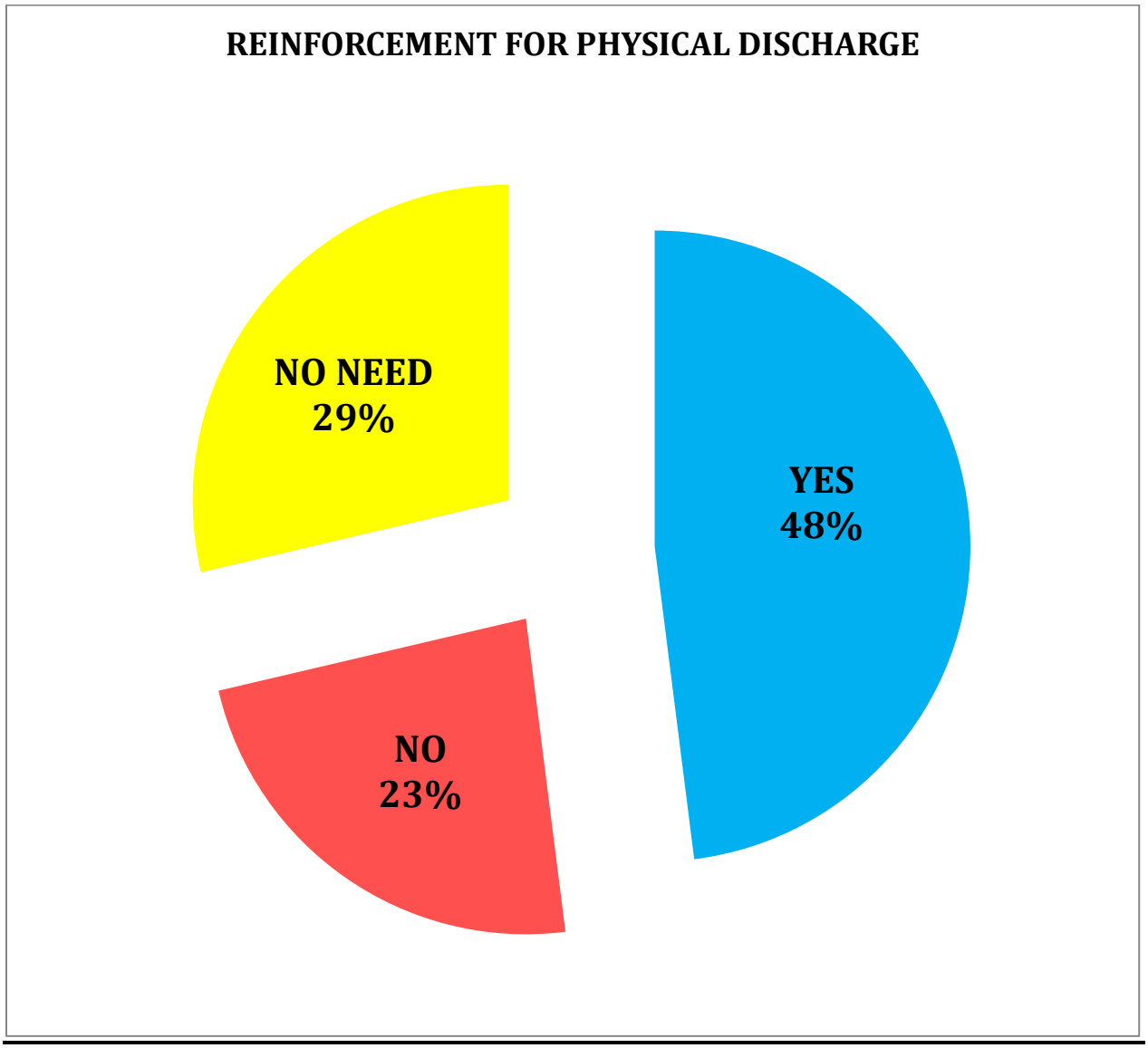
- In 50% of the cases, copy of provisional bill was given to the patient by Ward Secretary without asking for it.

3) **% OF CASES IN WHICH BILLING STAFF INFORMED PATIENT FOR FINAL BILL SETTLEMENT**



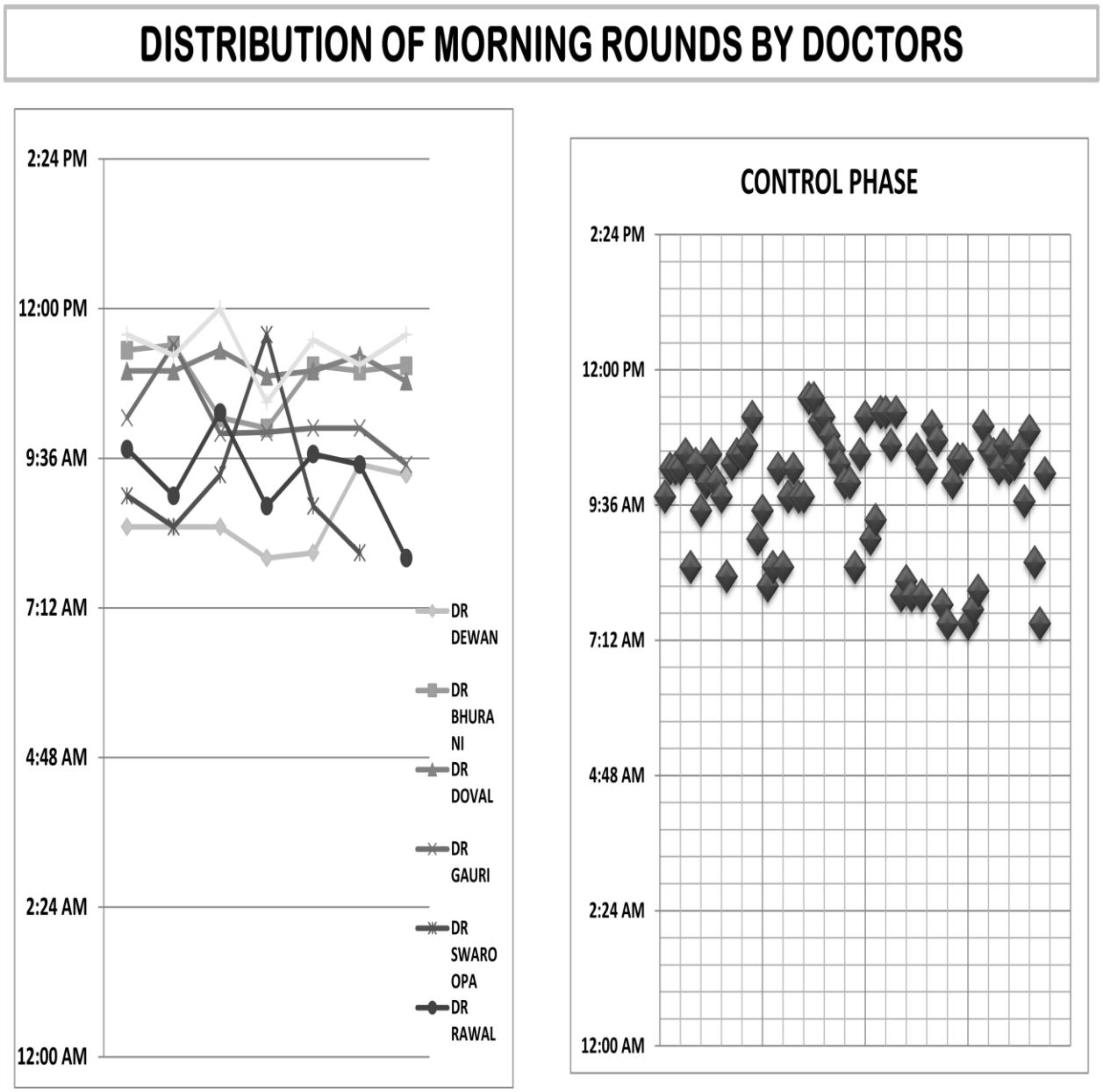
- In 49% of the cases patients were informed for bill settlement by billing staff

4) **% OF CASES WHICH WERE REINFORCED FOR PHYSICAL DISCHARGE BY WARD ASECRETARY**



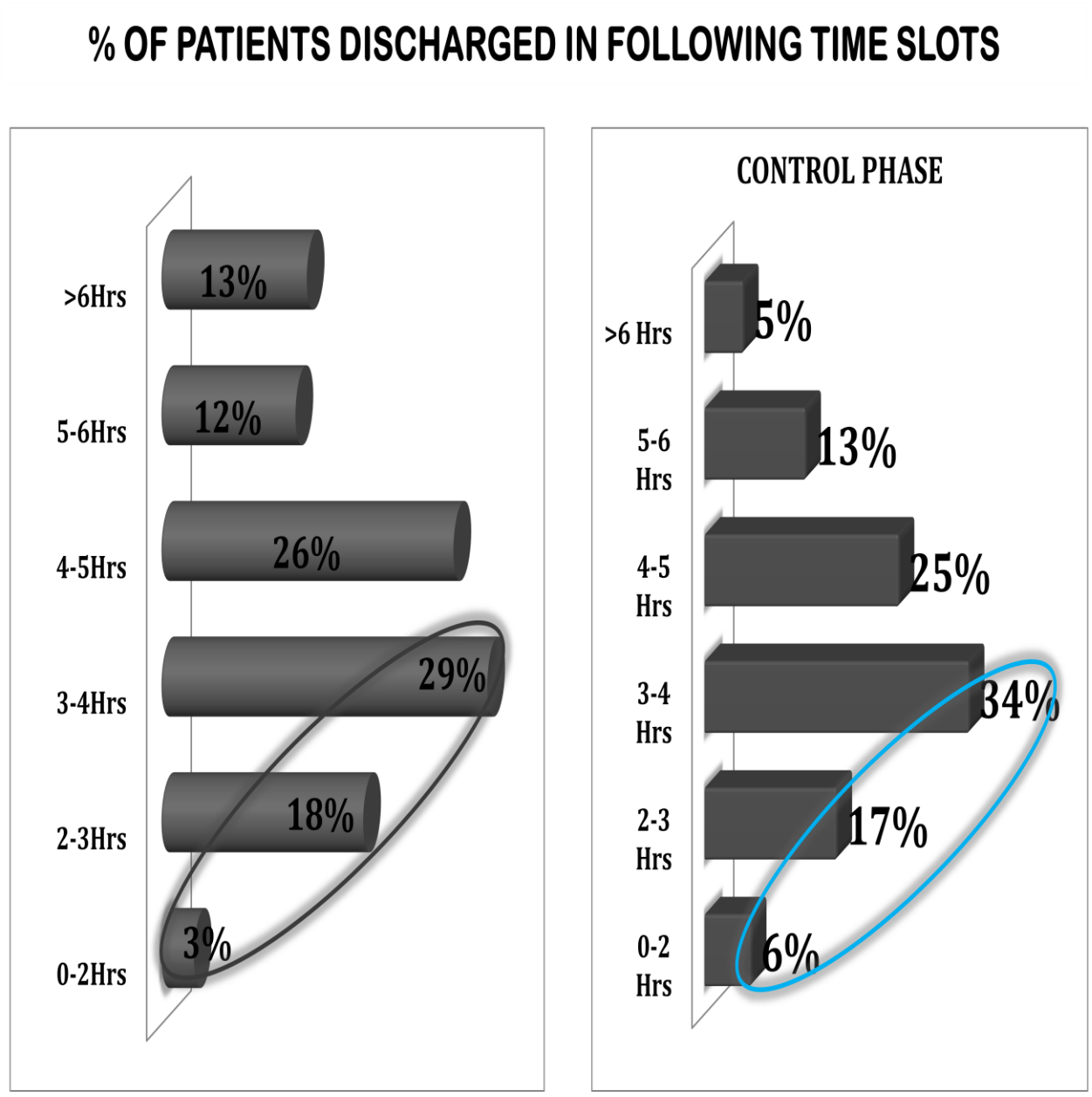
- In 48% of the cases patients were reinforced for physical discharge & in 29% of the cases there was no need

5) DISTRIBUTION OF MORNING ROUNDS BY DOCTORS



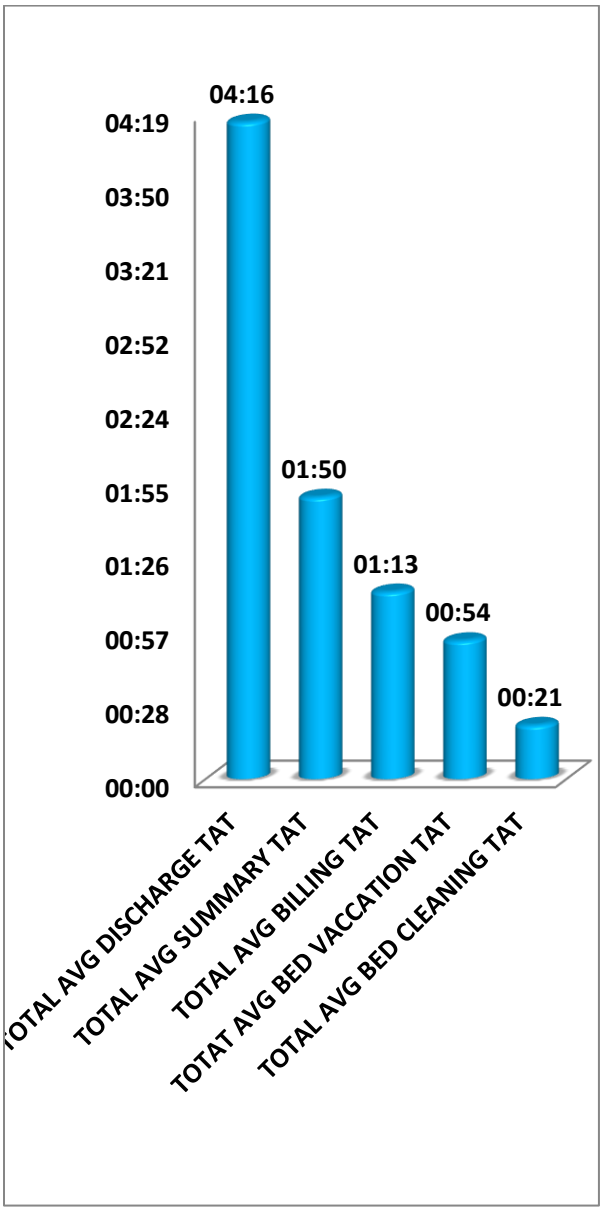
- Morning rounds time of doctors range from 7:30 am – 11:30 am during control phase which was varying from 9:00 am-12:00am before

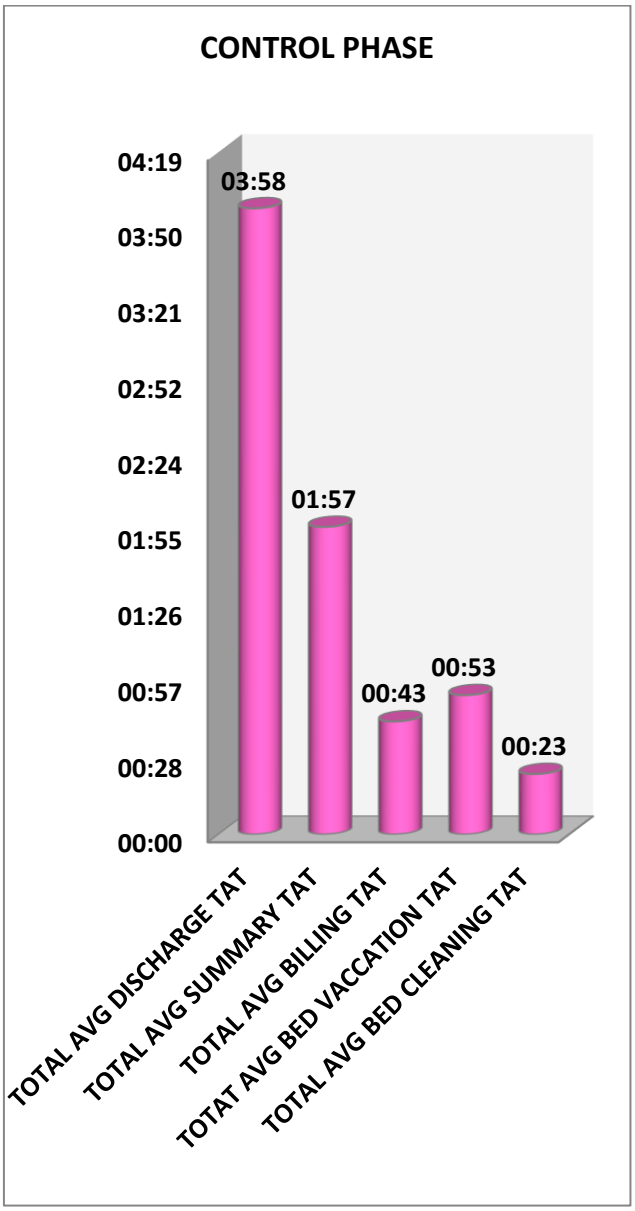
6) % OF PATIENTS DISCHARGED IN FOLLOWING TIME SLOTS



- Timely discharges have increased from 50% to 57% during control phase

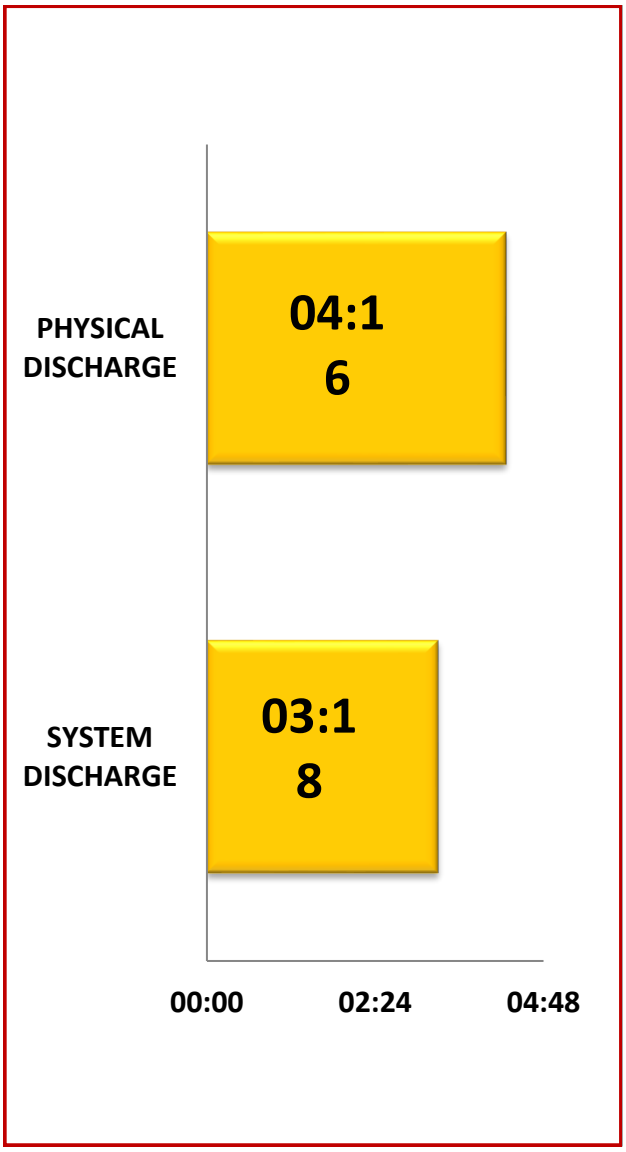
7) TURN AROUND TIME OF SUB PROCESSES IN DISCHARGE

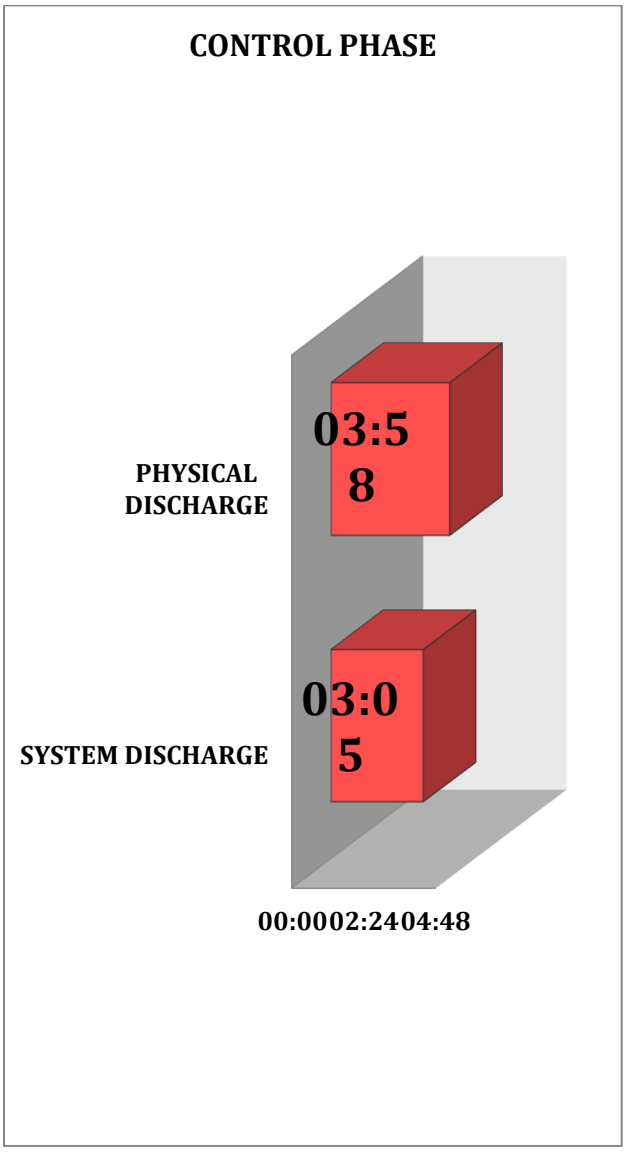




- Total avg discharge TAT has reduced from 4:16 hrs to 3:58 hrs during control phase

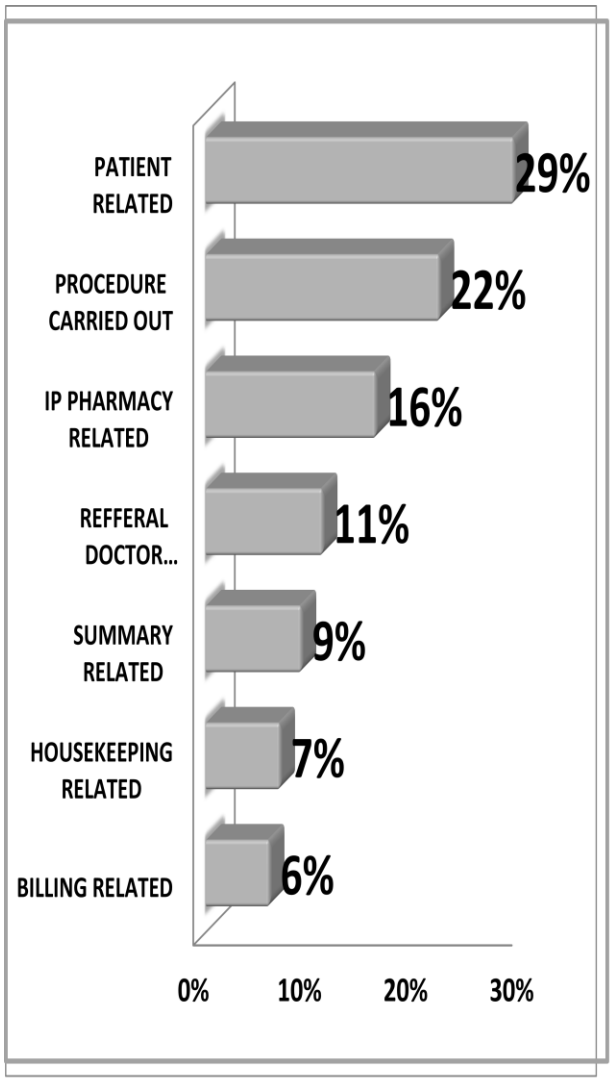
8) DISCHARGE TAT- SYSTEM Vs PHYSICAL DISCHARGE

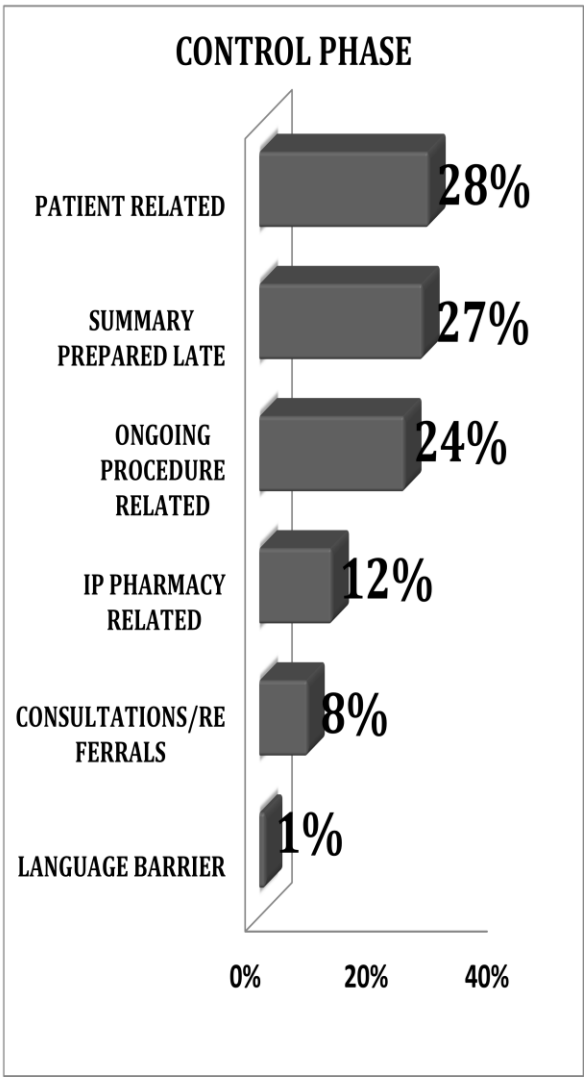




- Physical discharge was delayed by 0:58 min as compared to system discharge whereas in control phase, it is delayed by 0:53 mins on an average.

9) % DISTRIBUTION OF REASONS FOR DELAYED DISCHARGES





- Major reason for delayed discharges was found out to be patient related & late summary preparation was also a major concern

DISCUSSION

Delayed discharge can be defined as a condition in which a patient remains in *hospital* after his/her clinical readiness for discharge has been determined by the lead clinician in consultation with all agencies involved in planning that patient's next stage of care. The date on which the patient is judged clinically ready for discharge is the ***ready for discharge*** date. (ISD 2000).

Some of the major reasons of delay were found out to be:

- **Internal**-Ongoing procedure related (After chemo/injection/blood transfusion discharge, Minor OT dressing, PICC Line dressing, Radiation referral etc); IP Pharmacy related (long time taken for issuing D/s medicines and returning left over medicines, Medication errors, etc); Referral doctor consultation; Late summary preparation; Housekeeping related & Billing related.
- **External**- Patient related (Waiting for attendant, Waiting for transport, Waiting for lunch, Making financial arrangements etc).

Implementation of the Discharge Plan

Strategies to ensure continuity of care (the 4 C's)

- **C**ommunication
- **C**oordination
- **C**ollaboration
- **C**ontinual reassessment

1. Communication

- Should occur multi-directionally
- Should occur between the multi-disciplinary team and the individual
- Should eliminate all barriers

2. Coordination of services/case management

- Case manager or designated team member should coordinate the multi-disciplinary team in the discharge planning process.
- Case Manager should ascertain understanding of all communication with individual.

3. Collaboration

- Multi-disciplinary team members should be used for specialized assessments, recommendations, and case conferences.
- Individual should be involved at all levels of planning.

4. Continual reassessment

- The discharge planning process is dynamic, not static.
- Change in housing, placement, or other should be communicated to all team

Benefits of Implementing Discharge Plan for Individual

- Status will be maintained or improved; including physical, functional, and emotional.
- Individual confidence and self-perception will be improved.

Benefits of Implementing Discharge Plan for Providers

- Program staff can identify discharge assessment needs, intervention strategies, and follow up of clients.
- Program staff will increase knowledge base regarding unique learning needed of their target population.
- Multidisciplinary team members will collaborate on a regularly scheduled basis.
- Any change of status will be communicated among team members.

Benefits of Implementing Discharge Plan for Institutions

- The number of hospital readmissions and ER visits will decrease.
- Rating of caregiver and patient satisfaction with care will increase.
- Cost containment will improve.

Importance of quick discharge process

- When the patient is discharged quickly from the hospital it leads to a positive impression to the hospital.
- To satisfy patients who will work as spokes person for the hospital.
- Bed occupancy rate is increased.
- The staff will spend more quality time rather than doing crisis management due to delay in discharges.
- If the patient is discharged after 2:00 pm the bed charge for next day is charged by the patient or is added as a cost to hospital

Limitations of the study

1) Due to time constraint, data collection was restricted. Sample size is small, 25%, which may not be true representation of the whole population.

2) Case selection Bias

3) The study does not throw light on Cost-Benefit Analysis & Patient Satisfaction in respect to delayed discharges and therefore delayed admissions.

4) Some of the information for data collection was elicited from staff of the hospital which relied upon their memory.

CONCLUSION

The Discharge Process at Rajiv Gandhi Cancer Institute & Research Centre is an interdisciplinary, collaborative process across the continuum of care. It is a clinical priority for all health care team members. It is a prototypical condition for the patient safety movement and is non standardized from patient to patient and hospital to hospital. Responsibility for its implementation is fragmented among many hospital staff.

Out of 150 discharges followed in the study, *52% were discharged between 3-5 Hrs*. Among the *total sample size*, 52% of the *Cash patients* were getting discharged in 3-5 Hrs whereas *Credit patients* were taking more time i.e 4-5 Hrs (58%). Some of the major reasons of delay were:

a) *Patient related (29%)*- Waiting for attendant, Waiting for transport, Waiting for lunch, Making financial arrangements etc.
b) *Ongoing procedure related (22%)*- After chemo/injection/blood transfusion discharge, Minor OT dressing, PICC Line dressing, Radiation referral etc.
c) *IP Pharmacy related (16%)*- Long time taken for issuing D/s medicines and returning left over medicines, Medication errors, etc.

Other reasons for delayed discharges were as follows- *Referral doctor consultation, Late summary preparation, Housekeeping related & Delay in final billing*.

Overall, Physical discharge was delayed by 0:56 min as compared to system discharge. In case of cash patients, the difference was 0:58 min & 0:49 min in case of credit patients. This is why major reason for delayed discharges was found out to be patient related.

During Control Phase, Timely discharges were increased from 50% to 57%. *Total avg Discharge TAT was reduced from 4:16 hrs to 3:58 hrs during control phase*. There was not much difference in System Vs Physical Discharge during this phase (58mins to 53mins).

Delayed Discharge process leads to unnecessary bed occupancy, thus affecting both, the existing patients to be discharged and the new admissions in the hospital thereby putting undue pressure on the already strained resources of the hospital. Thus the study helps to bring out the areas which need further improvement and devises a workout plan for the same.

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ANNEXURES

Annexure 1:

➢ 10- 23 Jan 2012—Overall Discharge Process data collection on each floor.
➢ 24th Jan to 11th Feb 2012 --- Summary Room
➢ 13- 18 Feb 2012 --- Billing
➢ 20- 25 Feb 2012 --- IP Pharmacy
➢ 27th Feb to 15th March 2012 --- Data Analysis
➢ 23rd March –10th April 2012 --- Control Phase

Annexure 2:

TOTAL

CRN	DRNAME	CASH/CREDIT	P/UP	DRROUNDS	FILE SENT TO SUMMARY	SUMMARY RECD .AT WARD	DISCHARGE SUMMARY TAT	PT FILE RECD AT WARD	FILE SENT FOR BILLING	FINAL BILL RECEIVING TIME	TOTAL TAT - BILLING	BED VACCATION	BED CLEARING	TOTAL TAT - DISCHARGE	SYSTEM DISCHARGE	DIFF B/W PHYSICAL D/S & SYSTEM D/S	REMARKS

SUMMARY

DOCTOR NAME	CR NO	OLD/ NEW FILE	FILE RECEIVING TIME	SUMMARY TYPED TIME	SUMMARY PRINT OUT TIME	SUMMARY SIGNED TIME	TOTAL SUMMARY SIGNING TAT	SUMMARY SENT TO WARD TIME	TOTAL SUMMARY TAT	REMARKS

BILLING

CR NO	CASH/ CREDIT	FILE RECEIVING TIME	BILL PREPARATION TIME	TOTAL BILL PREPARATION TAT	FINAL BILL HANDING OVER TIME	TOTAL BILLING TAT	REMARKS

IN PATIENT PHARMACY

CR NO	PRESCRIPTION RECEIVING TIME	MEDICINES DISPATCH TIME	PHARMACY STAFF REACHING TIMR AT WARDS	MEDICINES RECEIVED AT WARDS TIME	TOTAL PHARMACY TAT	REMARKS

CONTROL PHASE

CRNO	DR NAME	P/UP	DROUNDSTIME	FILE SENT TO SUMMARY	FILE SENT TO BILLING	SUMMARY RECVD AT WARD	SUMMARY TAT	FILE RECVD AT BILLING	PT COMING AT BILLING	CALL FROM BILLING (Y/NO)	BILL RECVNG TIME	BED VACCATION	BED CLEANING	BED CLEANING TAT	TOTAL SYSTEM DISCHARGE TAT	TOTAL PHYSICAL DISCHARGE TAT	REMARKS

ANNEXURE: 3

HEALTHCARE FAILURE MODE EFFECT ANALYSIS (FMEA) TEMPLATE

	POTENTIAL FAILURE MODES	POTENTIAL EFFECTS OF FAILURES	SEVERITY(1-10)	PROBABILITY OF FAILURE OCCURENCE(1-10)	PROBABILITY OF DETECTION(1-10)	RPN(S*O*D)
DOCTORS	LATE MORNING ROUNDS BY THE DOCTOR	LATE SUMMARY PREPARATION- DELAYED DISCHARGES				
	DOCTORS BUSY IN OPD IMMIDIATELY AFTER ROUNDS	DELAY IN SIGNING THE SUMMARY-DELAYED DISCHARGES				

	CORRECTIONS IN DISCHARGE SUMMARY PREPARED BY SUMMARY EXECUTIVE	DELAY IN SIGNING THE SUMMARY-DELAYED DISCHARGES				
	NEW PT FILE FOR SUMMARY PREPARATION	MORE TIME TAKEN IN SUMMARY PREPARATION-DELAYED DISCHARGES				
HOUSEKEEPING	LACK OF ADEQUATE MANPOWER AS COMPARED TO THE WORKLOAD IN PEAK HOURS; LACK OF ACCOUNTABILITY	DELAYED DISCHARGES				
	LACK OF PROACTIVE APPROACH IN ROUTINE TASKS RELATED TO PATIENT CARE LIKE CLEANING & BED PREPN IN PATIENT ROOMS	DELAYED ADMISSIONS				
PHARMACY	MEDICATION DESPATCH ERROR	DELAYED DISCHARGES				
	HIGH WAITING TIME IN ISSUING & RETURNING THE MEDICINES	DELAYED DISCHARGES				
	DELAY IN DESPATCHING D/S MEDICINES	DELAYED DISCHARGES				
BILLING	ERRORS & SUBSEQUENT CORRECTIONS IN THE FINAL BILL	LATE BILL PREP-DELAYED DISCHARGES				
	ADJACENT CASH COUNTER PARTIALLY OPERATIONAL	LATE BILL PREP-DELAYED DISCHARGES				
COMMUNICATION GAP	LANGUAGE BARRIERS (Nurses & Patients)	MORE TIME TAKEN IN THE WHOLE DISCHARGE PROCESS				
	D/S COUNSELLING (the hospital policies and procedures related to Discharge) NOT DONE	DISCREPANCY IN DISCHARGE-DELAYED DISCHARGES				
	INCOMPLETE INFORMATION ON TRANSFER B/W SERVICES (Wards, Summary section, Billing section etc.)	DELAYED DISCHARGES				
	UNPLANNED DISCHARGES (can be due to uncertainity of Pt Condn for discharge or simply miscommunication/ Inadequate communication b/w the treating team and Ward secretary)	DELAYED DISCHARGES				
	NO REINFORCEMENT FOR PHYSICAL DISCHARGE BY WARD SECRETARIES AFTER FINAL BILL SETTLEMENT	DELAYED ADMISSIONS				
PATIENT	DELAY IN PHYSICAL DISCHARGE DUE TO MAKING PAYMENT ARRANGEMENTS/ LOGISTICS/ TRAVEL etc	DELAYED DISCHARGES				
STAFF	STAFF ABSENTEEISM	UNCOORDINATED DISCHARGE PROCESS-DELAYED DISCHARGES				

TECHNOLOGY	**HIS SYSTEM SLOW, NETRWORK RELATED DELAYS**	**SLOW SYSTEM AT NURSING STATION/PHARMACY/ BILLING etc. RESULTING IN LATE SUMMARY/ BILL PREP-& THEREFORE-DELAYED DISCHARGES**				