



# IDENTIFICATION OF CAUSES OF DELAY IN IN-PATIENT DISCHARGE AT A MULTISPECIALITY HOSPITAL

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## ABSTRACT

Delayed discharge in Hospitals is a system-level problem and requires more planning, in order to improve patient outcomes. However, delays in the discharge process are common and can lead to a number of negative consequences. The purpose of this study is to identify the causes of delay in in-patient discharge. This research will focus on the various factors that contribute to delays in the discharge process, including issues related to clinical care, patient needs and preferences, hospital infrastructure, and external factors such as insurance policies and regulations. The area of research chosen is the inpatient department at the hospital. The study done is a descriptive study. The sampling technique used is stratified random sampling. The delay in the preparation of discharge summaries and other social factors during discharge planning is the root cause of this research. It is strongly suggested to improve the existing discharge process since 40 per cent of respondents are facing delay in the existing process and to appoint qualified manpower for preparing discharge summary in order to avoid patient's waiting for longer time for discharge.

**Keywords** - Patient outcomes, Multispeciality hospital, Inpatient discharge.

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## INTRODUCTION

People are living longer and thus demand more and higher quality preventive and long-term care. A growing segment of population is turning to a wider, more diverse set of techniques and therapies to meet healthcare needs. Remaining in hospital beyond the necessary time has long been a concern, contributing, as it does to reduced care quality and increased costs. Delays in hospital inpatient discharge occur in the majority of hospitals. Delayed discharge is recognized to be a system level problem requiring effective team working within hospitals and coordination between health and social care. However an in-depth understanding of the impact of delayed discharge on patients and the healthcare executives caring for them needs to be established so that managers and policy makers can make informed decisions about addressing the consequences of delays. There should be concern to discover the reasons for delayed discharge of every hospitalization. However, delays in the discharge process are common and can lead to a number of negative consequences, including increased healthcare costs, longer hospital stays, and decreased patient satisfaction. The causes of delays in in-patient discharge are multifactorial and can include issues related to clinical care, patient needs and preferences, hospital infrastructure, and external factors such as insurance policies and regulations. Some common factors that contribute to delays in discharge include the need for further diagnostic tests or procedures, the availability of hospital staff or facilities, patient or family preferences, and delays in obtaining insurance authorization. Understanding the underlying causes of delay in in-patient discharge is important for hospitals and healthcare providers in order to develop effective strategies for addressing these issues and improving the efficiency of the discharge process. By identifying the specific factors that contribute to delays, hospitals can implement targeted interventions to reduce discharge times, improve patient outcomes, and enhance overall hospital performance.

## REVIEW OF LITERATURE

Reviewing the previous literature brought out a message that the timely discharge of in-patients from healthcare facilities is crucial for the efficient functioning of hospitals and for ensuring that patients receive appropriate care in a timely manner. The significance of discharge delay has been explained in the Delayed Discharge and Acceptability of Ambulatory Surgery Study by Gotaro Shirakami, Yuriko Teratani, Misaka Tazuke (2005), says that Delayed discharge is associated with increased post discharge pain, lower RNA level, and patient acceptability. Appropriate care of postoperative symptoms and system management could prevent delay in

discharge and improve patient RNA level and acceptability. Following, Identifying Reasons for Discharge Delays in Teaching Hospitals, by Silva, Valacio, Botelho, Amaral (2014), says that the impact on mean length of stay and hospital occupancy rates was significant and troubling in a scenario of relative shortage of beds and long waiting lists for hospital admission. Priyanka Shrivastava (2014) had done a research in, Identifying the discharge process in 500 bedded multispecialty hospital, explained about the discharge process flow in the hospital and time taken at each step in which delay is occurring and their reasons to reduce it and to streamline the discharge process reducing the time for discharges. Data has been collected for discharge patients taking place in hospital at the time of study from wards, billing department, Insurance desk, corporate cell and inpatient pharmacy. And concluded that for effective discharge planning hospital staff, doctors, nurses must work together, performance standards should be frequently monitored and there should be openness to innovative solutions. Following study a six sigma study to improve Hospital Discharge Timing by Ghada R El-Eid, Roland Kaddoum, Hani Tamim, Eveline A (2015) says that Six Sigma methodology can be an effective change management tool to improve discharge time. The focus of institutions aspiring to tackle delays in the discharge process should be on adopting the core principles of Six Sigma rather than specific interventions that may be institution-specific.

A Mustafa, S Mahagoub (2016) says that Continuous monitoring and engagement of teams with regular feedback were the most important factors in achieving and sustaining improvement in the timely morning discharge of patients from our paediatric units. Elena Pizzo, Emma Hudson, James Thomas (2017) a mixed study says that, implications for practice should be cautiously made. However, the results suggest that the adverse effects of delayed discharge are both direct (through increased opportunities for patients to acquire avoidable ill health) and indirect, secondary to the pressures placed on staff.

## **OBJECTIVES**

This study aims to understand the current discharge process flow in multispecialty hospital which helps the hospital to gain more patient satisfaction. It also aids in evaluating the discharge process in order to find out if there is any delay in the discharge process flow and if 'yes', then to take appropriate measures to correct it.

## RESEARCH METHODOLOGY

The research study is based on a quantitative approach in which the primary data has been collected through a standard checklist to assess the flow of discharge process in the In-Patient department. The checklist consists of two parts – 1<sup>st</sup> part consists of general questions regarding their socio-demographic characteristics while the 2<sup>nd</sup> part aimed to understand the time taken between in each discharge process of a patient. The data has been collected from March 01, 2023 to April 15, 2023 and recorded 70 responses by using Random sampling method. A sample chosen randomly is meant to be an unbiased representation of the total population. Descriptive analysis (Frequency distribution, Standard deviation and Pareto analysis has been done for the collected data using SPSS Software to interpret the results.

## DATA ANALYSIS AND RESULTS

### PERCENTAGE ANALYSIS

As mentioned in **Table 1**, majority of the respondents were male (N=46) between the age of 30-60 years. Insured patients are higher (N=46) than cash (N=16) and corporate (N=11) patients.

Information	Categories	N=70	Percentage
Age	0 - 30 years	15	21.50%
	30 - 60 years	36	51.40%
	60 - 90 years	19	27.20%
Gender	Male	46	65.70%
	Female	24	34.30%
Insurance/Corporate/cash	Insurance	46	63%
	Corporate	16	22%
	Cash	11	15%

**Table 1 - Socio-demographic characteristics of the respondents**

**Table 2**, shows the completion of discharge process of cash, corporate and insurance patients.  $\leq 4$  hours for 3 cash patients, 2 corporate patients and for only 1 insurance patient, 4- 6 hours for 6 cash patients, 9 corporate patients and for 12 insurance patients, 6-8 hours for 1 cash patients, 4 corporate patients and 14 insurance patients,  $>10$ -8 hours for 18 insurance patients.

	Insurance	Corporate	Cash	
<b>Average</b>	476.62	325.00	282.00	
<b>Standard Deviation</b>	143.27	57.76	65.63	
<b>Sample Size</b>	45	15	10	
<b>TAT</b>	<b>Cash</b>	<b>Corporate</b>	<b>Insurance</b>	<b>Grand Total</b>
<b><math>\leq 4</math> Hours</b>	3	2	1	<b>6</b>
<b>4 - 6 Hours</b>	6	9	12	<b>27</b>
<b>6 - 8 hours</b>	1	4	14	<b>19</b>
<b>8 - 10 Hours</b>			8	<b>8</b>
<b><math>&gt; 10</math> Hours</b>			10	<b>10</b>
<b>Grand Total</b>	<b>10</b>	<b>15</b>	<b>45</b>	<b>70</b>

**Table 2 - TAT for Insurance/ Cash /Corporate**

**Table 3**, shows the waiting time between doctors advised discharge to summary typing. Out of 70 patients, for 19 patients within 0-10 minutes, for 16 patients within 10-20 minutes, for 24 patients within 20-40 minutes, for 7 patients within 40-50 minutes, for 2 patients within 50-70 minutes, for another 2 patients within 70-260 minutes.

<b>Time between Doctor advised Discharge and Typist</b>	<b>Number of respondents</b>
0 - 10	19
10 - 20	16
20 - 30	12
30 - 40	12
40 - 50	7
50 - 60	1
60 - 70	1
70 - 260	2

	<b>The time between Doctor's discharge advice and Typing</b>
<b>Average</b>	31.07
<b>Standard Deviation</b>	40.61
<b>Sample Size</b>	<b>70</b>

**Table 3 - Time between Doctor advised Discharge and Typist**

**Table 4**, shows the time taken for summary correction. Out of 70 patients, for 3 patients it was within 0-10 minutes, for 34 patients it was within 10-20 minutes, for 18 patients it was within 20-30 minutes, for 11 patients it was within 30-40 minutes and for 4 patients it was within 40-50 minutes

	<b>Summary Correction</b>
<b>Average</b>	24.70
<b>Standard Deviation</b>	9.23
<b>Sample Size</b>	<b>70</b>

<b>Summary Correction</b>	<b>Number of respondents</b>
0 - 10	3
10 - 20	34
20 - 30	18
30 - 40	11
40 - 50	4

**Table 4 – Time taken for summary correction**

**Table 5**, shows the time between generating bill card till final bill closure. Out of 70 patients, for 8 patients it was within  $\leq 1$  hour, for 23 patients it was within 1-2 hours, for 17 patients it was within 2-3 hours, for 7 patients it was within 3-4 hours, for 6 patients it was within 4-5 hours, for 5 patients it was within 5-6 hours, for 4 patients it was within 6-8 hours

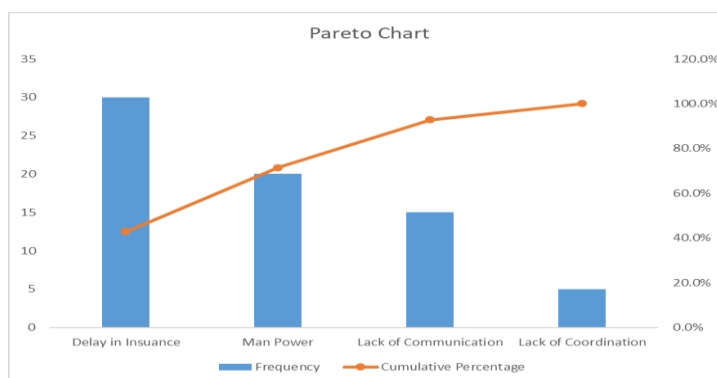
	<b>The time between Billing Card and Final Bill</b>
<b>Average</b>	158.63
<b>Standard Deviation</b>	104.73
<b>Sample Size</b>	<b>70</b>
<b>The time between Billing Card and Final Bill</b>	<b>Number of respondents</b>
$\leq 1$ Hour	8
1 - 2 Hr	23
2 - 3 Hr	17
3 - 4 Hr	7
4 - 5 Hr	6
5 - 6 Hr	5
6 - 7 Hr	2
7 - 8 Hr	2

**Table 5 - The time between Billing Card and Final Bill**

**Table 6**, shows the reasons for the discharge delays, 100 percent of delays faced by the patient due to insurance, 71.4 percent of delays faced by the patient due to insufficient staff, 50.9 per cent of patients faced delays due to lack of communication, 20 percent of the delays is due to poor coordination among employees.

Remarks	Frequency	Cumulative Frequency	Cumulative Percentage
Delay in Insurance	30	30	42.9%
Man Power	20	50	71.4%
Lack of Communication	15	65	92.9%
Lack of Coordination	5	70	100.0%
Total	70		

**Table 6 – Pareto analysis**



## PARETO ANALYSIS

Pareto analysis is a statistical technique that is used in decision-making for the selection of the limited number of tasks that produce the most significant overall effect. It uses the concept based on identifying the top 20% of causes that need to be addressed in order to resolve 80% of the problems.

## DISCUSSION

Delayed discharge in Hospitals is a system level problem and requires more planning, in order to improve patient outcome. After this analysis we understood that there need some improvisation in current discharge process system. The hospital has many facilities even though 40 percent of respondents are facing delays in the existing process. It is suggested to appoint qualified personnel to prepare discharge summaries to avoid patients waiting for a longer time for discharge. The physician team should provide discharge notes as per the proper protocol in order to avoid delay in discharge planning. Based on Pareto analysis, it is strongly



recommended that Potential issues with insurance approval should be identified well in advance the discharge process to allow sufficient time to address them before the scheduled discharge date.

## CONCLUSION

The present research study aims to identify the causes of delays in In-patient discharge and to give suitable suggestions and recommendations to avoid it and to increase patient satisfaction. From this research study, it is concluded that the patients are facing discharge delay in the existing process, so it is strongly recommended to appoint qualified man-power for preparing discharge summary and also it is recommended to improve the existing process of discharge by subdividing the components of work into convenient units who are involved in preparing discharge summary. This study can be used for research in future to identify the causes of delays in In-patient discharge in healthcares. Also it is strongly recommended that Potential issues with insurance approval should be identified early in the discharge process to allow sufficient time to address them before the scheduled discharge date.

## REFERENCE

1. Delayed discharge and acceptability of ambulatory surgery in adult outpatient receiving general anesthesia, *U.S National Library of Medicine* (2005).
2. A study on a tool for improving patient discharge process and hospital communication practices: the patient tracker, *U.S National Library of Medicine* (2007).
3. A study on delay in discharges and its impact on unnecessary hospital bed occupancy, *U.S National Library of Medicine* (2012).
4. A study on identifying reasons for discharge delays in teaching hospitals, *U.S National Library of Medicine* (2014).
5. A study on the discharge process in 500 bedded multispeciality hospital, *Indian Institute of Health Management Research* (2014).
6. Improving hospital discharge time: a successful implementation of six sigma methodology, *U.S National Library of Medicine* (2015).
7. A qualitative study on challenges in patient discharge planning in the health system of Iran, *U.S National Library of Medicine* (2015)

8. Discharge timeliness and its impact on hospital crowding and emergency department flow performance, *U.S National Library of Medicine* (2016)
9. Understanding and overcoming barriers to timely discharge from the pediatric units, *U.S National Library of Medicine* (2016).
10. Study on ondelayed discharges at a major arterial centre: a 4-month cross-sectional study at a single specialist vascular surgery ward, *U.S National Library of Medicine* (2016).
11. Impact and experience of delayed discharge: a mixed-studies systemic review, *U.S National Library of Medicine* (2017).
12. Improving early discharge using a team-based structure for discharge multidisciplinary rounds, *U.S National Library of Medicine* (2019).
13. Patient-centric approach reduces delayed discharge from hospital post-medical advice: an Indian perspective, *EC Pharmacology And Toxicology* (2020).
14. Reducing discharge delay through resident-pharmacist collocation: a pilot study, *U.S National Library of Medicine* (2020).
15. The association between discharge delay from intensive care and patient outcomes, *U.S National Library of Medicine* (2020).