



EXPLORATION OF FACTORS INFLUENCING THE DISCHARGE PROCESS DELAYS IN GOVT HOSPITALS OF PAKISTAN

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Abstract:

Objective: If there is a delay in the patient's release, even though everything went well, they may feel unsatisfied with their hospital experience. Their view of their treatment as a whole may be significantly impacted by how long it takes them to depart the hospital. Investigating the elements that lead to discharge delays at Mayo hospital is the objective of this study.

Methods: To investigate the variables causing patient discharge delays, investigative research was carried out at Mayo Hospital. Using a sample of 69 patients, a time-motion analysis was carried out to determine how long it took for each patient to be discharged. Using t-tests and analysis of variance, the research sought to determine the average time required for each stage of the discharge process and compare it across groups (ANOVA). The total amount of time required for the discharge procedure as well as the length of time required for each phase served as the study's outcome variable. The evaluation of these variables revealed areas that may be improved to speed up the discharge procedure and lessen patient delays.

Results: A study of 69 individuals revealed that the hospital discharge procedure took, on average, 5 hours and 41 minutes. With urology taking 6.62 hours and ear, nose, and throat (ENT) lasting 3.01 hours, different departments had different lengths of time between receiving the advice of release and physically leaving the ward. However, only a very tiny percentage of patients (18.8%) were released within the allotted 180 minutes. The research discovered that the completion of discharge summaries was when the biggest delay occurred.

Conclusions: Just a small percentage of patients were released within the allotted time frame, meaning that the majority of patients encountered delays in the discharge procedure. The time-consuming process of completing discharge summaries was a key element in this delay.

Keywords: discharge, delay, the discharge process

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Introduction:

Discharge is defined as "the course of actions that includes the patient and a team of people from different disciplines working together to assist the transition of a patient from one setting to another."

(1) According to the definition given, the patient discharge process is considered the ultimate step in the treatment procedure that takes place during a patient's hospital stay. In the context of timely discharge, the patient is deemed fit for discharge and is either relocated to an adequate care level or sent home as soon as possible. (2-5) A patient's discharge from the hospital involves more than merely saying goodbye. It entails a detailed procedure that considers the administrative, legal, and clinical aspects of the patient's treatment. This involves arranging for transportation, getting the required prescription drugs, paying hospital expenses, and making sure that all medical records are accurately recorded. Healthcare professionals may guarantee a successful return of their patients to their regular life by paying attention to these important elements. No matter how brief a hospital stay is, patients and their loved ones are anxious to leave the facility and get back to their normal surroundings. Anything that delays this might lead to dissatisfaction among the patients. It has been observed that even for patients who may have had a reasonably uneventful stay in the hospital, the delay in obtaining discharge has most commonly been a source of complaint for patients.

Patients and medical professionals alike may find the discharge procedure to be time-consuming and irritating. There are several potential causes of delays, and they might change based on the kind of hospital and the area. Patients complete the discharge process in an average of 4.93 hours, according to a recent survey, with the patient's financial situation and the distance between wards having the biggest impact on wait times. (6,7,8) The precise reasons why delays occur have been clarified by additional research. The time needed to bill is the biggest contributor to the overall discharge time, closely followed by the time needed to write the discharge report. Patients and their families may become frustrated and anxious as a result of these delays, which also put additional strain on healthcare professionals. (9) Delays in consultant clinical rounds, corrections to discharge summaries, insurance clearance delays, and billing settlement delays when the patient isn't yet ready for release are just a few of the reasons why discharge is frequently delayed past the anticipated time. The level of patient satisfaction and overall hospital effectiveness may be significantly impacted by these delays. (10,11,12) The overall patient experience can be enhanced, and the

workload for healthcare providers can be lessened, by addressing the underlying causes of discharge delays. Hospitals can work towards a more effective and patient-centered discharge process by streamlining billing and administrative procedures, offering more open communication with patients, and optimizing workflow processes. The NABH has established time restrictions for certain steps in the discharge procedure. (13,14) In research done in this respect, the average time required for all sorts of discharges was longer than what the NABH guidelines called for. Several objective aspects of standards AAC 13 and 14 were being followed by the SKIMS, but the discharge procedure and time still need to be specified and recorded. At this hospital, there were delays in all aspects of the discharge process, except for the time required to return unused medication to the pharmacy. The mean time taken for each step of the discharge process was significantly longer than the standard duration. Similarly, in another study, a time-motion analysis was conducted to compare the discharge process for different patient types, including those covered by insurance, those who were self-paying, and those who left against medical advice. (15-19) It is crucial to look at how long it takes from the moment a patient receives a release order until they leave the hospital to increase the efficiency of the discharge process. To speed up this process, it is essential to identify the bottlenecks and their underlying causes. To determine where delays are happening, a thorough examination of each stage in the discharge process is necessary. It is possible to resolve delays and simplify the discharge process by identifying the precise substeps where they are occurring. Hospitals may increase patient satisfaction and lighten the load on healthcare providers by doing this. This research was carried out to better understand the variables that affected the discharge process length at a Mayo hospital.

Methods:

From December 2022 to February 2023, descriptive time and motion research was carried out at the Mayo Hospital in Lahore. Patients who had been hospitalized in the chosen wards and were scheduled for release within this time were included in the research.

To determine an appropriate sample size for a time-motion study investigating the discharge process, the formula $n = ((z/p)(\sigma/t))^2$ was utilized. Assuming a mean discharge time of 105 minutes (or 80 seconds), a sample size of 56 was calculated with a 20% margin of error. To ensure a representative sample, a stratified random selection method was employed to select patients from different departments, including urology,

cardiology, pediatrics, surgery, ENT, and ophthalmology. This approach helps to ensure that the study findings apply to a broader population and increase the reliability of the results. Using a checklist that the relevant staff would note the time on, the amount of time it took for discharge in each department, from the moment the doctor wrote instructions on the case sheet until the end of the billing process, was monitored and measured. The individual case papers each had a copy of the pro forma attached. The concerned staff members in the wards, pharmacy, billing division, and insurance division were made aware of the need to record the time at each checkpoint. It was asked that the staff nurses in the corresponding wards confirm this. The quality control team was in charge of the process.

The pro forma contained various details regarding the patient, such as their ward or department, method of payment, and mode of discharge. The

time required for the discharge process—both overall and for each step—was the outcome variable in the research. Thusly gathered data were assembled and examined using SPSS v.27. Using the t-test and an ANOVA, the mean time for each step was determined and compared across groups. The main areas of delay were found. Individual patients' personal or sociodemographic information was not collected for analysis.

Results:

69 individuals and case files altogether were included in the research. These instances were from 7 distinct wards, including pediatrics, ENT, ophthalmology, urology, and medical oncology (Figure 1). In 22 (31.9%) instances, the discharge summary was produced by medical transcription; in 47 (68.1%) patients, it was produced manually. The majority of patients (68.1%) paid in cash, while the remainder of patients used one or more types of insurance.

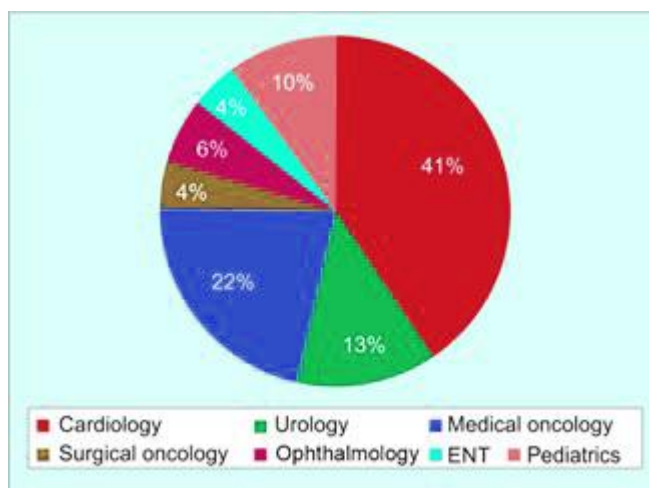


Figure 1: The distribution of cases by department

Table 1: Length of time till discharge in different departments

| | Urology | Surgical oncology | Pediatrics | Ophthalmology | Medical oncology | ENT | Cardiology |
|-------------|---------|-------------------|------------|---------------|------------------|-------|------------|
| N | 9 | 3 | 7 | 4 | 15 | 3 | 28 |
| Mean | 397.44 | 356.67 | 291.29 | 276.5 | 260.4 | 180.7 | 327.57 |
| S.D | 58.318 | 221.886 | 154.467 | 80.372 | 58.939 | 52.77 | 163.853 |
| Min | 285 | 110 | 61 | 215 | 172 | 139 | 75 |
| Max | 480 | 540 | 496 | 393 | 325 | 240 | 620 |

5.68 hours [± 2.25] was determined to be the average amount of time for the discharge procedure from the point at which the patient is recommended to leave the hospital to the point at which the patient exits the hospital ward (5 hours 41 minutes). Depending on the kind of payment method a patient used, there were observable disparities in the length of time they had to wait. Although those utilizing cashless or insured services waited an average of 6.15 hours, those paying with cash waited an

average of 5.47 hours. With a p-value of 0.118, statistical analysis showed that this difference was not statistically significant. The interval between getting a recommendation for release and leaving the ward differed amongst departments. For instance, the average wait time for patients in the urology department was 6.62 hours, whereas the average wait time for patients in the ENT department was 3.01 hours. (Table 1) There is much of potential for improvement in speeding the

discharge procedure as just 13 patients, or 18.8% of the total, were discharged within the advised 180-minute timeframe. The total amount of time for 24

patients between receiving discharge recommendations and exiting the hospital grounds exceeded 6 hours (Figure 2).

Table 2: Mean processing time for each discharge

| Checkpoints | Time |
|---|----------------|
| Discharge Summary (Starting) | 16 mins 44 sec |
| Discharge Summary (Completion) | 4 hrs 7 sec |
| Chart Movement from Ward to Billing Counter | 12 mins 31 sec |
| Billing Receiving | 25 mins 31 sec |
| Case Sheet Replacement to Ward | 39 mins 23 sec |
| Bill clearance | 59 mins 12 sec |
| Leaving the Ward Physically | 59 mins 14 sec |

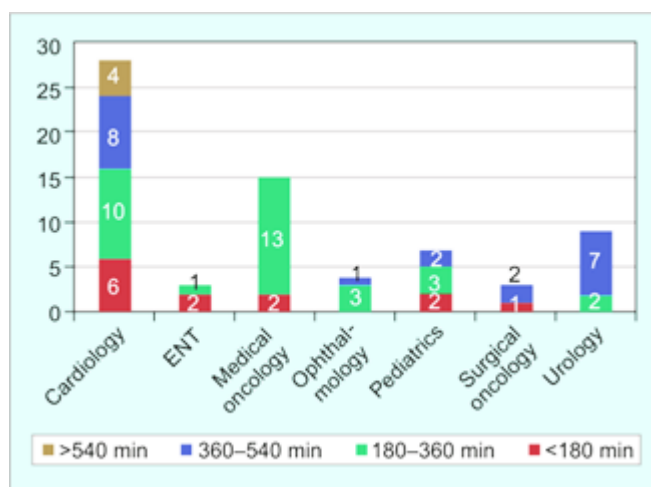


Figure 2: Average processing time for each discharge procedure

Additional research into the discharge procedure revealed that the creation of the discharge report, which took more than four hours on average, contributed significantly to the overall time needed. The time required for clearing bills came next. With averages of 30.33 minutes and 77.89 minutes, respectively, it was interestingly discovered that manual case sheet filling led to a substantially longer bill-clearing time compared to transcriptional filling (p-value = 0.08). These results emphasize the need of adopting effective and precise documentation techniques to speed up the patient release and reduce total wait times. For those who used insurance services and those who paid with cash at this time, there was no discernible difference (p-value = 0.136). (Table 2).

Discussions:

91.2% of patients, or a large majority, had discharge procedures take longer than the anticipated 180-minute period. It was discovered that the entire discharge procedure took an average of 5.68 hours on average, with a standard deviation of 2.25 hours, from the point of receiving the recommendation to leave until actual departure (equivalent to 5 hours and 41 minutes). These findings highlight the need for changes to the

discharge procedure to shorten wait times and ensure prompt and effective patient release. According to a comparable survey, it takes each patient an average of 2 hours and 22 minutes to complete the discharge procedure. (20) In another research, the discharge procedure took an average of 218 minutes (3 hours and 38 minutes). A little more than half (49.1%) of patients were released within 180 minutes, 40.4% were released between 181 and 361 minutes, and 10.4% were released after 362 minutes or more. (21) A study discovered a stark contrast between the observed time required for discharge process activities in the billing department, which took 2.05 hours, and the time reported in previous research, which was just 25 minutes. Yet, this discrepancy can be partially explained by the different order of the actions that make up the discharge process. (22) In our investigation, it was discovered that the preparation time for the summary was the primary cause of delays, followed by the time it took to choose the chart from the ward for billing and the transmission of the final bill. A study was conducted to examine the comments provided by patients who were being released, and it was discovered that 38.5% of patients claimed they were unsure of the cause, followed by 19% who accused the nursing staff and

18% who cited a delay in invoicing. (23) Hospitals may use several techniques to enhance the discharge procedure and make it more effective. Hospitals, for instance, may prepare the discharge summary before confirming the patient's discharge and may designate a specific time for the discharge procedure, such as 2:00 PM. Interns and younger residents will be able to concentrate on ward rounds and clinical talks up until then because of this. Daily patient file updates may also aid in ensuring that all data is precisely and thoroughly documented, which will hasten the creation of discharge summaries. Hospitals might adopt an effective electronic medical records (EMR) system and create a central electronic patient chart system to accomplish this.

Another strategy is to send the case sheet directly to the billing counter after it has been prepared in the outpatient department. This will help to streamline the billing process and reduce delays. Finally, hospitals can improve communication between the billing counter staff and ward staff by arranging for the billing counter staff to contact the ward staff directly once the bill is ready. This will help to ensure that patients are informed of their billing status promptly and that the discharge process can proceed smoothly.

Conclusions:

The study's results show that there is a serious problem with the hospital's discharge procedure since there are considerable delays in every department. One of the main causes of these delays is the drawn-out and complicated nature of the discharge processes, notably in the creation of discharge summaries. Not only do these delays make patients unhappy, but they also harm the hospital's image. Enhancing the efficiency of the discharge procedure will increase patient satisfaction and help the hospital manage its beds more effectively.

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