Background: Discharge process in the hospital is lengthy and with low efficiency, especially in teaching facilities. Our objective was to identify perceptions towards the current discharge process and possible ways to improve it in a community teaching hospital in Las Vegas, NV.

Methods: Quality improvement with cross-sectional survey questionnaire. Participants: 200 hospital staff (total possible participants) who were involved in the discharge process. 149 (actual participants) completed the surveys (response rate of 75%) which included multiple choices as well as open ended questions; 95 nurses, 43 residents, and 11 case managers. Results were analyzed using the Chi-Square test.

Results: 44% of respondents believed that the hospital discharge process is efficient while 56% did not. Frequent delays in discharge process from hospital were estimated often by 57.7%. Easiest placements were home health (51.7%) followed by hospice (19.5%). The most time-consuming placements were skilled nursing facility (43%) followed by acute rehab (22.8%). The preferred method of contact regarding discharge process differed among roles. 41% of nurse respondents listed voice calls while 54.5% of case managers and 44% of residents documented text messaging (P-value < 0.001). While most (61%) believed that multidisciplinary rounds are of value, the percentage of those who preferred it, differed among roles. 69.4% of nurses favored multidisciplinary round versus 4.2% who did not. This was 54.5% vs. 27.2% for case managers and 44.1% vs. 30.2% for the residents (P-value = 0.002).

Conclusion: Discharge process in teaching facilities is considered fragmented, inefficient and different groups of health care personnel perceive it differently.

Keywords: Discharge planning, length of hospital stay, multidisciplinary rounds

INTRODUCTION

Discharge planning is an interdisciplinary approach to continuity of care and a process that includes identification, assessment, goal setting, planning, implementation, coordination, and evaluation. Effective discharge planning supports the continuity
of health care. Delays in hospital discharges have long been a concern; contributing to increased costs, patient dissatisfaction and increased complications and length of stay. Some studies showed reduced hospital length of stay and reduced readmission for older people admitted to hospital with a medical condition through appropriate discharge [2]. Some authors believe that because of these complicities, discharge planning should be started at the time of admission. Therefore, it should be an early process involving individualized assessment for patients before they leave the hospital, with the aim of improving the efficiency and quality of healthcare delivery [2]. There are several reasons why a timely discharge can be challenging. Other than the medical diagnosis causing the hospitalization, the single most important factor in determining timely discharge is co-ordination between the multidisciplinary team that is taking care of the patient. Patients admitted to internal medicine service are largely elderly and frail, coordination between physicians, therapists, case managers, social workers, nursing facilities, and rehab center is of prime importance. Nurses are ideally positioned to play an important role in the discharge planning of patients from hospital to home and should be knowledgeable about the impact of individualized discharge planning on patient outcomes [3]. Discharge arrangements will vary depending on whether the patient is returning to home, or moving into a care home, or other care setting.

The aim of this quality improvement project was to identify modifiable factors. We hypothesized that effective and clear communication among the multidisciplinary team—in particular residents and case managers—can improve this process and avoid delays and complications. As discharge process is a teamwork process, our goal was to assess the role of a team of doctors, nurses and case managers in discharge planning; as well as understanding the perception of each of them towards the process in a community teaching hospital in Las Vegas.

METHODS

In November 2017, a questionnaire about methods and effectiveness of discharge process was distributed in MountainView Hospital amongst people directly involved. Of the 200 questionnaires (total possible participants), a total of 149 surveys were filled (actual participants) and given back to us, of which 95 responses were from nursing, 43 from the residents and 11 from case managers (response rate of about 75% in each group). There were a total of 14 questions with 9 multiple choice ones and 5 open-ended ones. Face validity was used and one of the questions was omitted later. Our questionnaire was designed to address possible weaknesses and flaws in the system. After collecting the survey, data analysis and cross-analysis among each group were conducted using the Chi Square.

RESULTS

Hospital discharge was considered efficient by 44% of respondents while 44% were neutral on the issue and another 12% believed it was not efficient. When respondents were asked regarding the delay in discharges, 48.3% answered there is often a problem and 9.4% answered very often. In contrast, people who answered “Not often” and “occasional” in delay of discharge were 11.4% and 16.8% respectively. The overwhelming majority believed that physical therapy should be consulted on the first day of the admission (45% of respondents strongly agreed while 38.2% agreed). Almost the same response was generated regarding whether case managers...
should be consulted on the first day when a patient is admitted. (45% strongly agreed, 39.6% agreed). 93% of respondent believed that early attempt to resolve any potential insurance issue lead to discharge delay reduction. (55% strongly agreed, 38.35% agreed). It was felt that the easiest method to address patient’s need at discharge is home health arrangement (51.7%) or hospice placement (19.5%). The most time-consuming arrangement was skilled nursing facility placement (43%) followed by acute rehabilitation placement (22.8%). A phone call was listed as the preferred method of contact by 41% of nurses while 54.5% of case managers and 44% of residents listed text messaging as their preferred method of contact (P-value = 0.000) (Figure 1).

![Figure 1. Preferred methods of communication for discharge planning based on role.](image)

Most people agreed that multidisciplinary rounds should be conducted (61%) for discharge facilitation but 7% were unsure or thought that it was not needed. For the question about multidisciplinary round causing the most discrepancy amongst roles, 66 / 95 nurses favored multidisciplinary round while only 4 answered that they are against it (69.4% vs 4.2%). In contrast, 6 / 11 case managers answered “yes” and 3 / 11 answered “no” (54.5% vs 27.2%) to that question. Amongst residents, 19 / 43 favored such rounds and 13 answered that they do not want any such event (44.1% vs 30.2%). The differences among the groups were statistically significant (P-value = 0.002). (Figure 2).

11 case managers, 35 nurses, and 29 residents responded to open question about methods that can improve communications. The most frequent answer from the nursing staff was to have the resident’s phone number available (30%). 10 of nursing staff (13%) responded that earlier rounds would improve communication. There were 6 responses from residents regarding improving communication with case managers (more frequent texts, earlier contacts, etc.) and 7 responses from case manager side that were related to improving communication with the residents (calling case manager the day before the discharge, daily contact with the resident, etc.)
An open-ended question about listing the hurdles of discharge was answered by 83 people. The most frequent answer was that medical prescriptions were not ready for discharge (35, 42%). The second most frequent answer was the insurance issue causing a delay for facility placement (17, 20%). 6 (7%) responses listed placement as a hurdle and 4 (5%) mentioned transportation as a problem. Of 75 respondents who answered the question "What are other improvements that can be made?" 25 stated that they wish physicians would discuss the plan of care with the staff, and 13 requested the discharge order to be placed in early. Based on these results, we suggested to make a directory of contact numbers needed for discharge, including all possible people and places that can be part of the process. An early day huddle between the graduate medical education (GME) teams and hospital staff will be beneficial and time saving. If a huddle will not be possible, early communication and open lines of communication are essential and can incorporate text messaging or direct calls when needed.

**DISCUSSION**

Based on the responses we received from this questionnaire, we have implemented the new discharge process for the GME team. It has roughly 4 steps done by 4 different groups with clear and direct communication to happen in synchrony:

**First step:** GME team makes the decision of discharging a patient who is medically stable and does not benefit from hospital stay any further.

**Second step:** Patients will need evaluation by physical and occupational therapists if they have ambulation problems or discharge seems to be unsafe. Their input will be documented.

**Third step:** Social workers and case managers will get involved, evaluate the situation and work on home health care arrangements or facility (skilled nursing, rehabilitation, and hospice) placement based
on recommendations from health care providers and patient/family preferences. 

**Fourth step:** Nurses start the discharge process with education and planning for exiting the hospital bed. All the previous procedure will be completed and processed. Patient oriented targets are necessary as follows [4, 5]:

- To have their follow-up and home care seamlessly arranged
- To know when they will be going home or to a facility and what they have to go through on the day of discharge
- To feel safe and feel like they are ready and prepared to go and transition elsewhere
- To have the information needed to have true confidence in their feeling of preparedness for leaving and caring for themselves in the days after discharge
- To have a convenient, easy, fast, and pain-free transition from their hospital
- To have all their questions answered, their feelings considered, and their family involved
- To have enough flexibility in the process to adjust to their individual needs
- To have a continuous healing relationship with the care providers.

The above process, unfortunately, is not the routine for many patients. Delays, confusions, mistakes, miscommunications... are plenty. The discharge process can be frustrating for healthcare providers and patients alike [6]. Delays in discharge processes prevents physicians from focusing on new patients with more pending issues. Complications might occur after discharge that may necessitate re-hospitalizations. The national average for a hospital stay is estimated at around 4.5 days currently. At an average cost of $10,400 per day, any delays in discharge are costly to the healthcare system. [7] In addition, more prolonged stay increases the chances of harm to the patient. Harm to the patient will increase the total cost ($4617 in one study with 95% confidence interval of $4364 to 4871) and in turn prolong length of stay (2.6 d [95% CI, 2.5 to 2.8]), increase mortality probability (59%; odds ratio, 1.4 [95% CI, 1.0 to 2.0]), and elevate 30-day readmission probability (74.4%; odds ratio, 2.9 [95% CI, 2.6 to 3.2]). [8]

Although there are many reasons for these problems, we believe the single most important modifiable factor can be poor communication. We have no immediate control over accessibility, beds available in acute rehab or hospice facilities, insurance preferences... but we can make the process inside our center seamless and more efficient. Establishing early clear unbiased communication with other teams including physical therapy, social workers and case management is essential for GME teams.

Of all the groups involved in the discharge process, case managers and social workers are more directly involved in the placement process and as such need to be informed of all events. Communication between the GME team of residents and case managers need to be near perfect for flawless discharge planning. Lack of such communication has a timely and costly effect on discharge planning. Improvement in the discharge process help improve patient flow and has led to greater efficacy and higher patient/staff satisfaction as well as cost saving for the hospital [9, 10].

Some of the limitations of this study are small number of participants and single location of the hospital. Another limiting factor might be the lack of objective data since these are all perceptions and not factual data and numbers. Also there is no
way to compare these perceptions to other hospitals because the culture and expectations in each hospital can be different.

It is possible that some participants were more opinionated and negative about the process and that is why they took the survey and some “happy campers” might not have participated because they thought the process is good enough. All the residents questioned were internal medicine residents but then in our hospital most of the admissions (including surgical cases) are done by them.

CONCLUSION

Establishing early and effective communication among multidisciplinary teams including physicians, nurses, case managers, social workers, and physical/occupational therapists is perceived to play an essential role in effective patient discharge. Conducting early and effective multidisciplinary rounds amongst the groups mentioned above may help facilitate such discharge process. Communication amongst the multidisciplinary team is likely enhanced when using clear and timely communication methods preferred by each group. Being cognizant and avoiding common barriers to discharge can potentially lessen the overall number of hospital day stay.

Notes

Potential conflicts of interest: No conflict of interest or commercial support to be disclosed for any of the authors. No experimentation with animals or humans for this research. All authors have read the final version of the manuscript and had agreed with it.

Disclaimer: This activity was supported (in whole or in part) by HCA and/or HCA affiliated entity. The views expressed in this publication represent those of the authors and do not necessarily represent the official views of HCA or any of its affiliated entities.

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