Optimizing the Inpatient Rehabilitation Discharge Work-Flow to Facilitate Safe and Expeditious Discharges

James Doan, MD; Max Epstein, MD; Maaheen Ahmed, DO; Emmanuel Achilike MD, MPH; Uvieoghene Ughwanogho, MD
H. Ben Taub Department of Physical Medicine and Rehabilitation
Baylor College of Medicine, Houston, Texas

ABSTRACT

Title:
Optimizing the Inpatient Rehabilitation Discharge Workflow to Facilitate Safe and Expeditious Discharges.

Objectives:
Delays in discharge contribute significantly to the financial stress of a healthcare system. Our first objective was to establish a protocol to standardize and streamline the inpatient discharge process. Our second objective was to improve discharge efficiency for medical, nursing, case management, and therapy teams.

Design:
This quality improvement project followed the "plan, do, check, act" model. The primary outcome measure was discharge time. Patients were separated into pre-intervention and post-intervention groups. Within both groups we looked at discharges before and after intervention. This included looking at factors such as discharge location, discharges after 11:00 a.m. etc.. Initially this was done in the pre-intervention group in order to identify barriers to timely and efficient discharges. After review, a discharge checklist that focused on daily communication between treatment teams regarding upcoming discharges was implemented. The two groups were then compared.

Results:
The Pre-intervention group consisted of 64 patients with an average discharge time of 12:49 p.m. While discharging 10.9% before 11:00 a.m. and 89.1% after 11:00 a.m.. The Post-intervention group consisted of 23 patients with an average discharge time at 11:51 am. While discharging 30.4% before 11:00 a.m. and 69.6% after 11:00 a.m. Both groups discharged to a variety of locations. Improvement in average discharge time between the two groups was 58 minutes.

Conclusions:
The discharge checklist improved the efficiency of discharge by almost an hour. Checklists such as the one used in the intervention are useful at any institution which utilizes residents simply because of the way in which it standardizes the discharge process for someone who is constantly rotating through unfamiliar settings and working with unfamiliar treatment teams.

CONTACT

Emmanuel Chigozie Achilike – emmanuel.achilike@bcm.edu

INTRODUCTION

Discharge is a critical point of an inpatient rehabilitation hospital stay because of the wide range of individuals and social care services needed for one to smoothly transition to the next phase of their life. One of the priorities during inpatient rehabilitation is maximizing the patient's ability to live in a variety of settings as well as minimize dependency when they are going back into their community or a secondary healthcare facility. The smoother the transition the less of a chance for readmission and/or delays in discharge.

Discharge delays and readmissions have negative ramifications on the patient, the healthcare system, and society at large. Once a patient has been cleared for discharge it has been determined that they are no longer benefiting significantly from being inpatient. Any unnecessary extension of their hospitalization puts the patient at risk, increases financial burden, and delays the process of them adapting to their future new environment. These late discharges and readmissions also potentially result in a financial burden on the hospital and can also affect resource allocation.

METHODS

- Primary outcome: Improve discharge time.
- Goal: Improve rate of patients discharged before 11:00 a.m.
- Develop a protocol to standardize and streamline the inpatient discharge process based on risk factors. (example below)
- Separate patients into pre-intervention and post-intervention groups.
- Record data for the pre intervention group.
- Apply and execute the intervention which is the discharge protocol.
- Record data for the post intervention group.

Within both groups, average discharge time; percentage of discharges before 11:00 a.m; and discharge location were recorded.

Discharge Protocol

It is important to understand that actions completed on admission and throughout the hospital stay are as much part of the discharge protocol as the discharge checklist.

- Admission Checklist:
  - Release "signed and held" orders
  - Use "Gen Rehab" order set
  - Complete admission medication reconciliation
    - Review and "continue" current orders,
    - Home medications should be "mark[ed] as reviewed"
    - "Do not continue" home medications
  - Complete and sign History and Physical
  - Utilizing the "Discharge" side tab place follow-up providers for the patient on the day of admission
- Discharge Checklist:
  - Day prior to discharge
    - Perform discharge med reconciliation,
    - Sign and print scripts,
    - Place in physical chart of patient
  - Round on patient the morning of discharge before 9am
  - Communicate with the nurse once patient is medially cleared for discharge.
  - Nurse reviews the after visit summary with the patient and family
  - Physician places "Discharge" order

Results

Pre-intervention

Figure 1: Pre-intervention discharges before 11am

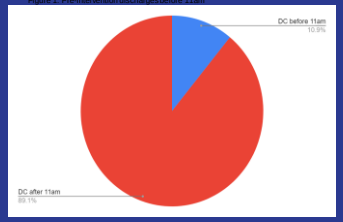


Figure 2: Pre-intervention discharge locations

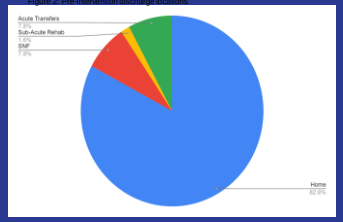
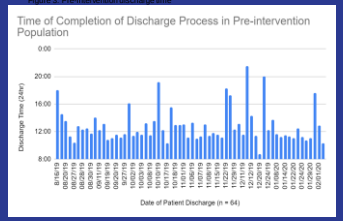


Figure 3: Pre-intervention discharge time



Post-Intervention

Figure 4: Post Intervention discharges before 11am

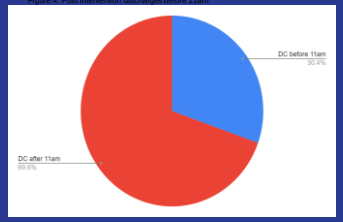


Figure 5: Post Intervention discharge locations

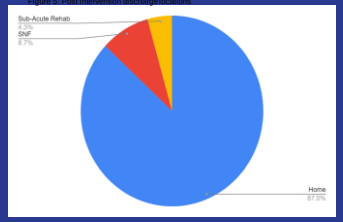
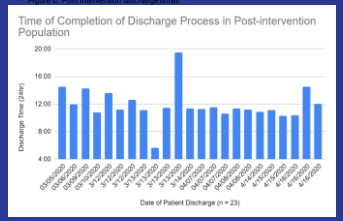


Figure 6: Post Intervention discharge times



Results Continued

Figure 7: Side by side comparison

	Pre-Intervention	Post Intervention
Average Discharge Time	12:49 P.M.	11:51 A.M.
% Discharged Before 11:00 A.M.	10.90%	30.40%
% Discharged After 11:00 A.M.	89.10%	69.60%

DISCUSSION

This is a great approach when done correctly. It is important that chart review to augment the checklist is done. This allows different facilities to identify the key factors which cause their own delays in discharge. Every facility has its own specific problems depending on the community, infrastructure, and patient population which tends to gravitate towards that specific facility. Trends and patterns which ended up contributing to delayed discharges included medically complex patients, lack of family support, disposition location, and many regional specific problems. Moving forward the discharge protocol should continue to be revised, to mitigate any recurring problems.

It is of note that the post intervention group data collection occurred during the COVID-19 pandemic. CDC guidelines and approaches to keeping patients safe may have caused the pre intervention and post intervention group to have fundamental differences.

CONCLUSIONS

The discharge checklist improved the efficiency of discharge by almost an hour. Checklists such as the one used in the intervention are useful at any institution, especially one which utilizes residents simply because of the way in which it standardizes the discharge process for someone who is constantly rotating through unfamiliar settings and working with unfamiliar treatment teams. During the patient's hospital admission, a multidisciplinary team reviewing the patients' circumstances should provide support and take a proactive approach initially and throughout the hospital stay. This should include prompt assessment of their needs and consideration of necessary steps required in advance of discharge. Any barriers to discharge should be identified early in the process.

REFERENCES

Winfield A, Burns E. Let's all get home safely: a commentary on NICE and SCIE guidelines (NG27) transition between inpatient hospital settings and community or care home settings. Age Ageing. 2016;45:757–760.

Soong C, Daub S, Lee J, et al. Development of a checklist of safe discharge practices for hospital patients. J Hosp Med. 2013;8:444–449.

Medicare guidelines for discharge. https://www.medicare.gov/Pubs/pdf/11376-discharge-planning-checklist.pdf