Discharge By Noon: Effective Hospital Capacity Management

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ABSTRACT

OBJECTIVE

Throughout the pandemic and with ongoing staffing challenges, Mayo Clinic set out to optimize postoperative patient flow and to optimize hospital capacity. Day of discharge delays were identified as a significant bottleneck. Initial assumptions placed much of the delay on staffing challenges throughout the hospital, when in fact there are multiple steps in the process that can cause delayed discharge for certain patients. Some of these challenges include ancillary services and practice performance regarding communication and prioritization of patients eligible for discharge.

METHODS

The pilot group focused on clinically diverse patient populations that represented a comprehensive sample of practices at two adult acute care campuses. This group included five pilot surgical groups (plastics, colon and rectal, thoracic, breast, endocrine and metabolic) with patient populations distributed across both hospitals and set a goal of 75% of patient dismissals completed by 12:00 p.m. A noon goal was created based on observations that patients discharged after the noon hour impact post-operative admissions that are beginning to arrive at 11:00 a.m. and require a bed. If the current population that is planned for discharge does not leave until after 12:00 p.m., there is a natural delay and bottleneck for the arriving admissions from the operating room.

RESULTS

Initial baseline data showed 24% dismissal by noon daily, with an average time of dismissal of 1:04 p.m. Within the data set, only patients located on the dedicated inpatient unit for the services were included. Post implementation, the average discharge by noon is now 42%, with a median discharge time of 12:24 p.m. Time of discharge order placement was also determined to not be a factor in discharge time.

CONCLUSIONS

The success of the pilot group resulted in expansion to the rest of the Department of Surgery. The second group began this project with a 27% discharge by noon average. Median time to discharge was 1:31 p.m. at project initiation with this group. Median discharge time improved to 12:13 p.m. and 36-42% of patients being discharged by noon. While the pilot team did not achieve the lofty goal of 75% discharge by noon, the group had many key influential takeaways, and discharge by noon rates continue to be measured monthly. Sustainability of initiatives continue to be an iterative process, with ongoing opportunities for improvement.

OBJECTIVES

This project initially began with anecdotal stories of discharge barriers and roadblocks. With endorsement from leadership, the project team was able to engage with a team of health system engineers, to effectively map current state and ensure appropriate data analysis.

In order to keep the teams up to date on progress, a weekly data dashboard along with a metric printout was sent. Figure 2 highlights an example outlining 5 key metrics:

1. Percent of patients out by noon
2. Percentage of orders placed before 8 AM
3. E-prescribe rates compared to paper/fax orders
4. Median discharge time
5. Median order placement time

IMPROVEMENT STRATEGY

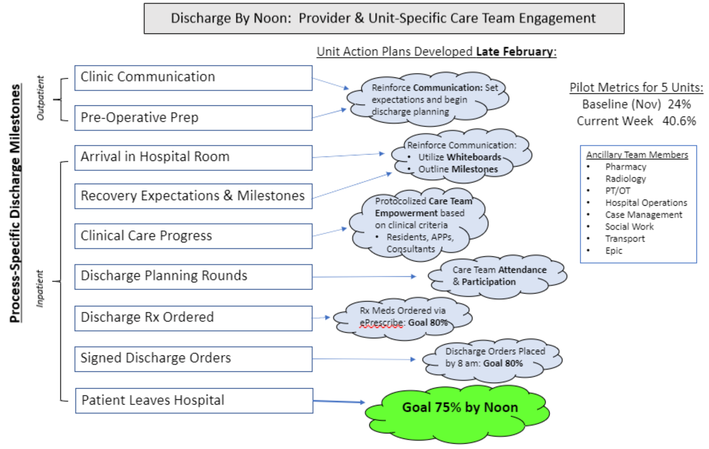
Major improvements in time to discharge came from empowerment of the core care team to make the final discharge decision. This primarily includes the advanced practice provider (PA or NPPA) and/or Resident to have the approval to make the decision to discharge based on protocols rather than waiting to communicate with the Consultant on the morning of discharge. Discharge protocols were posted on internal specialty websites.

Any testing required on the day of discharge should be planned and scheduled early on the morning so it does not get queued up in a wait list causing delays.

Take home prescriptions should be ordered through E-Prescribe on Epic rather than the traditional faxed paper order to the pharmacy in order to expedite the filling of prescriptions.

Discharge orders should be placed as close to or before 8 AM on the morning of discharge. It was determined that the processes that can only occur after the discharge order has been placed take about 2.5 hours, so if the order is put in after 9:30 AM, the odds of a discharge by noon shrink dramatically.

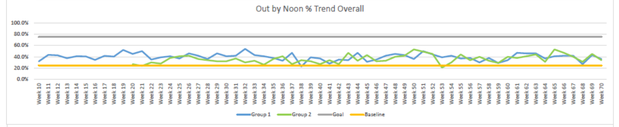
Early and consistent communication with the patient and their family about discharge date and time expectations is important so the family is present and transportation is available early in the day.

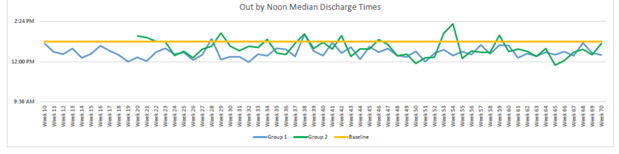


Example of Weekly Dashboard

Week 70 Out By Noon Report

4/24 - 4/30	% of discharges by Noon	% of discharge orders placed by 8 am	Median Discharge Time	Patients
HPB (FR 5C)	19.0%	19.0%	1:49 PM	16
HPB (EI 6A)	50.0%	50.0%	12:54 PM	2
HPB (EI 5J)	33.0%	33.0%	12:10 PM	3
HPB (EI 6J)	0.0%	50.0%	12:32 PM	2
Oral & Maxillofacial Surgery (FR 6C)	0.0%	100.0%	3:54 PM	1
EMS (FR 5C)	0.0%	0.0%	1:22 PM	2
TCGS (FR 1C)	50.0%	33.0%	12:25 PM	6
TCGS (FR 4C)	47.0%	13.0%	12:32 PM	15
Vascular and Endovascular Surgery (MB BBQ)	38.0%	8.0%	12:51 PM	13
Pediatric Surgery (FR 2B)	0.0%	0.0%	6:11 PM	3
Pediatric Surgery (FR 3C)	20.0%	0.0%	12:37 PM	5
Thoracic (NT 1D)	30.0%	7.0%	12:34 PM	30
CRS (EI 5J)	50.0%	50.0%	12:09 PM	20
CRS (EI 6J)	36.0%	55.0%	12:08 PM	22
Plastics (FR 1C)	33.0%	17.0%	3:17 PM	6
Plastics (EI 6A)	18.0%	45.0%	1:12 PM	11
EMS (FR 1C)	29.0%	7.0%	12:58 PM	14
BMSO (EI 6A)	50.0%	50.0%	10:40 AM	2
EMS (EI 6A)	100.0%	67.0%	10:29 AM	3





ACTION PLAN

Department of Surgery – Out By Noon Inpatient Unit Opportunities Checklist
Goal: 75% of patients discharged by 12:00 p.m.
EMS, CRS, Plastics, Thoracic

	Optimize communication with the white board to include anticipated date of discharge, goals for patient and care team prior to discharge; Goal to have 100% of patient white boards display updated discharge date information and disposition milestones ACTION PLAN:
	Use of E-Prescribe for at least 80% of discharge medications ACTION PLAN:
	Complete discharge paperwork and sign 80% of discharge orders by 8 am on day of discharge. Allow for Residents or APP to submit discharge orders if Consultant is not available. ACTION PLAN:
	Establish protocols to empower Residents and/or APPs to proceed with care for patients based on agreed to predetermined clinical criteria (i.e. removal of chest tubes, lines, etc.) ACTION PLAN:
	Plan to have Consultant, Resident, or APP attend morning discharge rounds with Nursing, Social Worker, and Care Manager. Review time of day when rounds are held. ACTION PLAN:
	Have a transportation plan developed with patient and their family prior to day of discharge; prioritize and emphasize expectations in the outpatient clinic and pre-op environment. ACTION PLAN:

Barriers	Solutions
Team (Resident, APPs) not feeling comfortable making decisions about discharge prior to consultant rounding	Open discussion with consultants and Division Chairs, empowering residents and APPs to place discharge order
Medication reconciliation must be performed each time the discharge order is placed	Utilize the prepare for discharge order to communicate and initiate discharge planning
Transportation	Strategic messaging during surgical listing appointment, "who will be here early on day of discharge?"
Nutritional Status	• Enhance unit kitchen stock and be intentional about offering snacks • Modify messaging, "after breakfast"

DISCUSSION

Feedback from units that performed well was that high engagement from all levels of care team was the primary driver of success. This includes:

- Early planning with the patient and their family with discharge expectations
- Active participation in daily discharge rounds with providers, nurses, case managers, and social work present
- Consistent use of the discharge navigator within Epic
- The patient should for all relative purposes, be ready to leave when the discharge order is entered. The patient should have testing and procedures complete and medications agreed to. It takes 2 hours and 30 minutes on average to complete all of the discharge steps after the order is entered, so it makes it difficult to discharge in the morning if the nurses have to backtrack on steps that should have been completed prior to the order.
- If procedures are required to take place on the day of discharge, such as chest tube removal, working with the procedural department to hold early morning slots for those procedures was beneficial
- Use of the white board with discharge time expectations and transportation plans was helpful
- If staffing is adequate, discharge efficiency improved if one nurse was assigned to expediting discharge patients.

CONCLUSIONS

The project team had six key learning takeaways:

- Communication and patient involvement in discharge planning
- Leveraging tools in the EMR
- Encouraging prioritization of discharge with care teams by setting expectations
- Timely placement of medication orders
- Active participation in discharge rounds by all members of the care team
- Prompt predischarge testing and procedure completion

FUTURE CONSIDERATIONS

In future state, the organization should consider development of a "discharge lounge" to allow patients a safe and comfortable place to wait for transportation, pharmacy, or other care needs post discharge.

Empowerment by Consultants to APP's and Residents for making discharge decisions early in the day is a key driver

Discharge by noon has to be an organizational priority, with accountability measures and set guardrails.

Communication must take place not just within care teams but across all ancillary services to ensure appropriate prioritization within those groups as well.

Develop and expand partnerships with local skilled nursing facilities and home health care agencies to ensure timely bed availability for patients needing continuing care.