PATIENT CENTERED DISMISSAL: GETTING IT ALL TOGETHER
SAINT MARYS HOSPITAL, MAYO CLINIC ROCHESTER

Publication Year: 2014

SUMMARY:
The ED Dismissal Project is about creating a safe, efficient patient centered & consistent system to facilitate the departure from ED care to home.

SUBMISSION CATEGORY:
- Safety and Quality
- Care Coordination
- Patient Experience

HOSPITAL:  Saint Mary’s Hospital, Mayo Clinic
LOCATION:  Rochester, Minnesota

CONTACT:  Lori Scanlan-Hanson, BSN, MS, CSSBB, Continuous Improvement Specialist, Department of Emergency Medicine, scanlanhanson.lori@mayo.edu

CATEGORY:
- D: Disposition Decision/Throughput
- E: Exit From the ED

HOSPITAL METRICS:
- Annual ED Volume: 72,000
- Hospital Beds: 914
- Ownership: Not-For-Profit, Mayo Clinic
- Trauma Level: 3
- Teaching Status: Yes

KEY WORDS:
- Communication
- Continuity of Care
- Length of Stay
- Discharge Instructions
- Follow-Up
- Information Systems
- Lean
- Length of Stay
- Patient Satisfaction
- Queing
- Wait Times

TOOLS PROVIDED:
- Discharge Checklist (paper format)
- Discharge Checklist (electronic format)
- Project Metric Graphs for Primary Measures
- A3 Quality Reporting for Updates

CLINICAL AREAS AFFECTED:
- ED

STAFF INVOLVED:
- Clerks
- ED Staff
- Nurses
- Pharmacists
- Physical Therapists
- Social Workers/Case Managers
Innovation

The ED Dismissal Project is about creating a safe, efficient patient centered & consistent system to facilitate the departure from ED care to home. The creation of team based tools adds value to the patient needs and experience. The goal is to have our patients depart the ED within 30 minutes of decision to discharge with accurate and complete discharge paperwork and follow-up information.

Volumes at this level 3 academic ED have grown at the same time; new diagnostic testing and academic learners have resulted in increasing lengths of stay in the Emergency Department. Current Quality Gap: The current process of dismissal from the ED has large variation in the process and time from decision to dismissal. There is no standard process for discharge which leads to confusion for both providers and allied staff in an environment where staff rotates day to day. Frequently, the ED follow-up office responds to missing or inaccurate dismissal materials given to patients. There is not consistent compliance with providing patients with written discharge instructions despite this being a best practice for better patient outcomes.

This project is a re-engineering of the dismissal process to address why patients who linger in exam rooms long after the decision to discharge, and why some patients do not get the written instructions, prescriptions, or follow-up appointments for optimum outcomes. The solution seemed to boil down to better teamwork and communication. New standard processes and tools were used to create a new dismissal process.

The innovation used for changing the process, was to increase real-time communication within the care team while recognizing the complexity of providing care to a large volume of patients. The solution included the need to leverage both automated technology systems and low tech communication tools that would allow for the transfer of important information to the right team members at the right time for better efficiency and effectiveness when preparing for and dismissing a patient from the Emergency Department. The decisions to use electronic triggers, visual queues and checklists were made due to the plans for complete renovation of the Emergency Department in the next 36 months. The solutions chosen were not tied to a specific physical layout or special population. The solutions needed to be built within systems that would continue in the newly renovated work areas.

Innovation Implementation

Please see the attached ED Quality Discharge Group ‐Team Schedule that shows the extensive training the team had in DMAIC and Lean quality principles, and Value Stream Mapping. The implementation plan was created from an extensive and detailed Value Stream Map created by the Multidisciplinary team who had front line experience with the care of patients in the ED. From the multiple star-burst ideas for improvement, the team created a grid to prioritize and select the top five ideas for developing action plans. These five ideas were then plotted on a Effort/Yield analysis grid. For each of the 5 ideas, the Influencer Model of change management was used to identify strategies to engage ED staff. A smaller subgroup agreed to take the lead to create a plan for improvement for each of the five ideas.

- Discharge planning (early in process) including Social Work consult early
- Currently no way to make sure process is complete once decision to discharge—need to improve communication b/w MD/APP and RN—Communication of vital signs before discharge
- Clarity of roles, including for vital signs, printing of instructions, final review before patient leaves room.
- Having DCI, work excuse, and prescription on one program or electronic file to reduce time switching programs.
- Standardize the dc paperwork—

Topic #1 was a fairly low effort action plan, the home needs assessments done by nursing was located in a charting form near the end of the visit and was moved to the same area as initial assessments in the charting process. These assessments were already a standard of care and required. Nursing education was provided to show that the process and questions had not changed, just moved to the front end of the patient visit. The was a significant flow improvement as Social Services could be contacted much earlier to work on potential home needs during the time the patient was being cared for.

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Urgent Matters
Topic #2 was the primary area for effort and involved the creation of both a discharge flow process and discharge checklist to assure accuracy and consistency. The use of the checklist created new work and changes in practice for staff. The process kicked off in June with PDSA cycle learning. The checklist was revised and improved by staff input and suggestions. A video was created for visual reinforcement of the flow process and use of the checklist. The video allowed for a consistent message and teaching points, short video clips are useful teaching aids in the ED where staff work 24/7 shifts with unpredictable periods of business. During initial implementation, the checklists were collected to identify if there were specific areas, staff, or times when the checklist was not used. Coaching was provided by peer team members as well as from timely reminders from leadership. By far the implementation of the checklist as a required standard of care has been the most challenging.

Topic #3 was not difficult but did create some conflict related to who would select and print discharge instructions.

Topic #4 ended up being put on hold as it required significant Information technology resources that could not be made available.
Topic #5 Occurred as an outcome of the Dismissal Checklist, which included items such as work releases and scripts. The implementation process began in June and continued into September as PDSA cycles were used to get staff acquainted with the new process and checklist. During this time, a program was created through the ED electronic record that provided individual staff reports on the primary metrics so staff would get weekly feedback on compliance based on patients they had cared for.

Timeline
The project team was officially formed in April of 2013. The team quality training occurred over April and May for an eight week period. The team met regularly in June and July to create the Value Stream Map, choose topics for improvement, and create action plans and being PDSA cycles to test. Early implementations occurred in August with coaching, reminders and teaching via the video. Staff began to get routine compliance reports in the 3rd quarter of 2013 and focused efforts to identify areas of weakness occurred in January - March of 2014 while coaching continued to help create the culture changes needed for meeting goals of 90% compliance with process measures. The control plan was developed in late March 2014. The plan was activated once to discuss how to handle the stalled process measures that had not reached 90%.

Results/Evaluation
Please see the attached Graphs that show the final outcomes of the project. A control plan was implemented and a response meeting was held when compliance with entering the Disposition Order Electronically seemed to stall out at below 90%.

![Discharge Instructions Printed Before Departure](image)
The ED Leadership was asked to support the goals of the project and stepped up to share their expectations of all staff participating in the new standard of care related to dismissal of patients. Finally in April of 2014, compliance goals for the process metrics were met. The team was less concerned that the goal of Disposition decision (order) to departure within 30 minutes has not been met. Patient safety and quality of care has been increased with better and more complete discharge instructions, follow-up care and medication prescriptions.

Cost/Benefit Analysis
There were minimal costs for implementing the program. The largest cost was the wages for the staff training time but this was considered quality education that will benefit future projects as staff participate in other projects. Also the increased buy-in that was generated through direct care staff on the project helped reduced the barriers and resistance to implementation. The second highest cost was the printing of the paper check list. The process changes did not require increased staff. The programing of the computer to pull compliance data was pivot table queries that were not time intensive to data information techs to provide.

The counter balance metric of defects that required re-work by the ED follow-up nurse was reduced, based on hourly wages of an experience follow-up nurse, this resulted in savings of $644.00 per month. The cost/benefit provides some understanding that reducing defects will save money. What is not able to be measured in the number of patients who had ongoing illness, medication interactions, or return visits to health providers due to lack of appropriate discharge instructions or follow-up appointments. The focus of the development of a Standard Patient Center Dismissal process was not on cost savings but on increasing the value and quality of the care provided to patients in a high volume ED.

Advice and Lessons Learned
1. Taking time to educate the team on Quality Theory/Principles/ and Tools is time intensive and costs wages for the project team but it is worth it in the downstream implementation and coaching the team members can provide.
2. Strong emphasis on changes management principles from models like ADKAR, Influencer Model and Prosci tools is key to understanding barriers and resistance as it happens.
3. Peer Coaching of practice changes for Quality Improvement if far more successful then management mandates.
4. If you can't make a new process work using paper tools/approaches, there is little chance that automated changes will work either.
5. Get strong commitment from leadership at the beginning of a project. Invite them to early team meetings; get their endorsement for action plans. This can be very helpful if/when compliance begins to fall back and control plans need to be activated.
6. Using media such as Videos take time a preparation but help spread a consistent message and are more likely to be watched by staff who may not read a lengthy email.
7. The use of A3 reports as a report out tools is helpful in understanding the entire project journey after the project is completed.

**Sustainability**
A control plan was developed by the team. The plan provides actions/reactions to be taken by the team if the compliance of metrics reduces. See attached control plan. Also the ability to provide staff specific compliance data weekly can be helpful to engage staff who will strive to improve personal performance. This project shows that innovation is possible and can change the standard of practice in a large volume Level 3 trauma center when direct care staff are deployed to find solutions that work for the patients.
<table>
<thead>
<tr>
<th>ID</th>
<th>Critical X description (missing or incomplete info on orders)</th>
<th>Process step/activity</th>
<th>Output of this process step/activity</th>
<th>Who owns this step/activity?</th>
<th>What is the specification/goal for the X? What is the acceptable range?</th>
<th>How will the X be controlled?</th>
<th>How will this X be measured (incl sample size, sampling frequency, charting)</th>
<th>Who measures this X?</th>
<th>What is the reaction plan?</th>
<th>Who is responsible for implementing the reaction plan?</th>
</tr>
</thead>
<tbody>
<tr>
<td>X1</td>
<td>Incoming error rate</td>
<td>Entering of the Disposition by Provider into PulseCheck</td>
<td>Trigger visual light at patient door to message all team members that patient is ready for discharge process</td>
<td>Consultant Staff</td>
<td>Goal is for 90% of the time the disposition will be entered at the appropriate time prior to the patient leaving the ED.</td>
<td>Electronic reports are available with both aggregate data and individual performance data</td>
<td>100% of records for patients who are discharged from the ED to their home, care center, or transferred to another facility.</td>
<td>Query is built into PulseCheck Pivot by Karen Koch and automated reports are sent to individuals and Dr. Nestler.</td>
<td>The team will need to discuss additional action plans if the required goal of 90% is not reached or reached and then drops for more than 2 weeks.</td>
<td>Team Champion, or Team Leaders</td>
</tr>
<tr>
<td>X2</td>
<td>Batch size</td>
<td>DCI will be printed for patients being discharged</td>
<td>Patients will receive DCI when being discharged from the ED</td>
<td>Provider Staff who discharge the patient</td>
<td>Goal is for 90% of the time the patient will have DCI printed prior to discharge and provided at time of discharge from the ED.</td>
<td>Pulse check query can identify all patients that have DCI printed and if they are provided at the correct time.</td>
<td>Percentages can be identified of patients who have DCI printed. This is currently being measured weekly with individuals receiving their personal accountability report.</td>
<td>Automatic query is in place.</td>
<td>Team will be reconvened if the DCI at discharge process drops below 90%.</td>
<td>Team Champion, or Team Leaders</td>
</tr>
<tr>
<td>X3</td>
<td>Queue depth</td>
<td>Patient will be out of treatment room within 30 minutes of the disposition being entered into PulseCheck</td>
<td>90% of the time, the patient will be dismissed from the Treatment room within 30 minutes of the disposition order being entered.</td>
<td>The Care team: Providers, Nursing, PCI, CTA.</td>
<td>Time triggers showing time of orders, and patient dismissal are available electronically.</td>
<td>Electronic report of the time from disposition to dismissal for all patients when the provider has entered the disposition prior to Discharge.</td>
<td>Automatic reports for these metrics can be created for review on a weekly basis</td>
<td>Review of the data to identify outliers that may cause skewed data due to special cause events (such as electronic record outages). Team will reconvene if there is consistent inability to reach goal.</td>
<td>Team Champion, or Team Leaders</td>
<td></td>
</tr>
<tr>
<td>X4</td>
<td>Sortation errors</td>
<td>Complete and Accurate Discharge information</td>
<td>Accurate patient discharge paper work reduced the patient needing to come back or request correction work by the follow-up office.</td>
<td>Follow-up Office and Case Review Event Coordinator</td>
<td>Goal would be 0 defects. Acceptable range would be less than 5 reported defects per week for all discharged patients. Events involving a HIPPA violation, will not occur on average more than 2 per month</td>
<td>Events identified by the Follow-up office and enter into the ED Case Review Data Base if and event involves a HIPPA violation, there will be a report to the compliance office.</td>
<td>Actual number of events per week will be monitored for all events including those that are a HIPPA violation.</td>
<td>Case Review Coordinator</td>
<td>Review all events for special cause variation. Staff involved in every event will receive a email with event information to provide for awareness.</td>
<td>Care Review Coordinator will make reports to the Quality Committee when the number of events are outside the acceptable range.</td>
</tr>
</tbody>
</table>
Discharge Checklist form in Pt Packet (behind Triage) with Pt Sticker applied to all forms

At rooming, the primary RN will place checklist on the Clipboard designated for that room at the CA desk in the file/organizer

Dispo Decision: Will the patient be discharged home?

NO
Discharge Checklist will not be used
RN removes the Checklist and disposes from Clipboard

YES
Provider puts the Purple Discharge Light on via Pulse Check
Check list is initiated with staff completing tasks they are responsible for. ept at central file (except in PEDS area)
Primary Nurse will check progression of tasks on checklist and assure completion
RN takes all materials from clipboard to pt and reviews. VS taken. Patient leaves room when complete. RN takes completed sheets to CA or back in packet. Sheets will be collected in Control for data collection and analysis.

Nursing Actions
- Provider Actions
- Process Flow will be facilitated by TL Nurse
- Is there a CA in the work Area?

YES
Provider can Print DCI or circle on Checklist and have CA print and put on Clipboard
Provider can have CA assist with follow-up Appointments
All Work/School excuses Scripts. Appointment information is indicated on Checklist and Clipboard

NO
Provider prints the DCI and places on Clipboard
Provider calls Control for help with follow-up appointments
Counter Balance: Defects found by the Follow-Nursing

Average Hourly wage of Follow-up Nursing: $42.00
Cost in redundant work: $693/month
Reduced patient safety, reduced compliance with treatment plan

Baseline Approx Time (min)
16.5 hours waste/month
g Office will not increase

Mid July -August  Approx Time (min)
6.5 hours of waste/month

Hourly wage of Follow-up Nursing: $42.00

Undant work: $49 /month

Patient safety, reduced compliance with treatment plan
Dispo Entered in Computer Before Departure

(Triggers visual queue the patient room)

% With Dispo Entered Before Departure

Week Ending Date

48% 71%
Discharge Instructions Printed Before Departure

% With DCI Printed Before Departure

CL 87%

Week Ending Date
**Problem-Solving Report**  
**June 20**  

**To:** ED STAFF  
**From:** Discharge Improvement Team  
**Title:** Discharge Flow Process

**Theme:** 70% of patients seen in the ED are discharged to their home/living setting after being seen. Improved process that increases effectiveness and efficiency of the Discharge process will have a large impact in improving care.

The ED discharge process is about creating a safe, efficient patient centered & consistent system to facilitate the departure from ED care to home. This is important because it values the patient needs and staff's time with the aim to improve patient satisfaction and care. The goal is to have our patients depart the ED within 30 minutes of decision to discharge with accurate and complete discharge paperwork.

**Background:**  
Past focus with ED Flow process improvements have focused on front end improvements. VSM have been done in that past that show possible improvement opportunities. New VSM were created for the current and future state related to the discharge process for patients.

**Relevance:**  
Effective flow of patients through the ED is a critical component to increase and improve the safety and satisfaction of patients. Lean improvement methods can be used to identify waste in the current process from both the patient’s perspective and staff workflow perspective.

**Current Condition (please see the Project Bulletin Board for copies of the current and future state maps created by the project team.)**

- Time from decision to discharge by MD to patient leaving has large process variations, non-valued added wait times, defects and errors that cause safety concerns, rework, and extra work for staff both at the time of the discharge and afterward.  
  
  Patient Discharge Instructions are printed approximately 70% of the time.

**Root Cause Analysis**

- No standard work for the process of discharging patients  
- No checklist of discharge components  
- Discharge instructions need to be reviewed and standardized  
- No Role clarity for who should do which roles  
- Communication between team members is limited  
- Visual cues are not used consistently or have varied meaning to staff  
- Activation of discharge planning via SS needs to be done earlier in process

**Discharge Flow Team:**  
Janet Finley, Leader; Lisa Douglas, Project Manager; Dave Nestler, Champion; Lori Scanlan-Hanson, Q-I Specialist  
**Direct Care, Content Experts:** Tom Hellmich, Anu Luke, Sue Meyer, Bo Madsen, Dennis Laudon, Jessica Issel, Jennifer Grantham, Charisse Kropp, MaryJo McCoy, Loretta Mueller, Clare Larsen, Kharmene Sunga, Ad Hoc: Rita Miller, Quality Academy Coaches: Sean Clark, Curt Hale.

**Target Condition (please see the Project Bulletin Board for copies of the current and future state maps created by the project team.)**

Waste, waits, defects, and redundant work will be reduced through:

1) The creations of a standard work definitions  
2) Coach and educate staff for compliance with the new process  
3) Clarify the role of each team member for accountability to the Standard Work flow  
4) Create tools that will assist the staff in completing the discharge process  
5) Decision to Discharge visual cue will be used and 90% of patients will leave the treatment room within 30 minutes.  
6) 90% of all patients will have written discharge instructions at the time they leave the ED

**Implementation Plan:**  
**Sub Task Force One:** Create Early Screening Process for Discharge Planning  
**Sub Task Force Two:** Create Discharge Checklist

- List the actions which must be done in order to realize the Target Condition, along with the individual responsible for the action and a due date.  
- Add other items, such as cost, that are relevant to the implementation.

<table>
<thead>
<tr>
<th>What?</th>
<th>Actions to be taken</th>
<th>Who?</th>
<th>Responsible person</th>
<th>When?</th>
<th>Deadline</th>
</tr>
</thead>
<tbody>
<tr>
<td>Discharge Planning Screen</td>
<td>Clare L: Leader</td>
<td>June 20th</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Check list ready for use</td>
<td>Anu L: Leader</td>
<td>June 20th</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Power point for staff education</td>
<td>Team</td>
<td>By June 12</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>DCI list for back of checklist</td>
<td>Dave N./Lisa</td>
<td>June 12</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

**Follow-up Plan:** Metrics will be monitored for compliance with dispo order entry, DCI printed, Checklists used, LOS, Defects requiring follow-up, individual accountability with process will be provided to staff.

**Plan** | **Actual Results**
---|---
Individual accountability with process will be provided to staff.  
- Percent using Purple light (order entry)  
- Percent of discharge instructions printed  
- Decision to exit room LOS | Pending

**Opportunities**

**IDEAS**