Proposals to Improve the Internal Medicine Discharge Process

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Summary

This executive summary, describing the quality improvement project work undertaken by students in the 2015 Health Innovations Scholars Program (HISP) at University of Colorado, provides an “at-a-glance” overview of the teams’ work and recommendations (page 1), as well as detailed descriptions in the following pages of systems analysis, insights, small tests of change, lessons learned, recommendations for data collection, and suggestions for next steps in implementing sustainable change. Questions about this summary or the project work described below should be directed to Read Pierce, MD, Director of the Young Hospitalist Academy, and Emily Gottenborg, MD, Director of the Health Innovations Scholars Program.

Project Charge

The HISP 2015 cohort was charged with streamlining discharge from the University of Colorado Hospital (UCH) internal medicine unit. Building upon work already initiated by an inter-professional team based on the AIP-1 9th floor, we sought to target patient and provider dissatisfaction with the discharge process, suboptimal multidisciplinary communication, and lack of a standard approach for facilitating discharge.

Overview: Insights from Needs Assessment

Work by the existing inter-professional team and additional current state analysis led by our HISP cohort revealed the following gaps in system and human performance related to patient discharge:

- Fragmented communication among members of the medical team, leading to provider and patient confusion about and dissatisfaction with the discharge process. On the 9th floor of AIP-1, HCAHPS Patient Experience scores from February 2015 ranked UCH in the 4th percentile for communication with physicians, and 10th percentile for communication with nurses.
- Rushed patient education—often occurring at the time of discharge, which leaves the patient confused about the next steps in his/her recovery.
- Delays in sending patients home: only 11.2% of discharges occur before noon; UCH’s average time of discharge is 3:07 pm.

Current State Analysis:

To understand the current state of the discharge process, we started by interviewing stakeholders—including patients, providers, nurses, case managers, and social workers, and by observing existing discharge rounds. These observations resulted in a rich set of insights, derived from qualitative comments and from a detailed process map of steps required to plan for and execute patient discharge from the hospital [A1.1, A1.2]. Based on frequency of observed challenges and/or severity (impact of the challenge on patient care), we identified several areas to explore more deeply, outlined below.
MD-RN communication

Stakeholders unanimously expressed that MD-RN communication was splintered. To gain insight into communication challenges, we rotated through the unit with medical teams and attended rounds focused on discharge planning. Based on our observations, fragmented communication arises from several causes. Both doctors and nurses are exceptionally busy and have distinct workflows; they often work on their respective tasks without much interaction. In addition, cultural hierarchy often impedes open MD-RN dialogue, preventing effective exchange of information. This leads to reduced transparency with regard to patient treatment plans and related discharge planning.

Discharge Rounding Structure

To better understand the discharge process, we observed multidisciplinary discharge rounds to pinpoint where communication may break down. We were interested in how common discharge barriers were identified, communicated, and addressed through proactive planning. This focus on barriers that can delay discharge arose after we spent time with patients, and observed common themes, captured in the following experience:

We sat with a patient from the time her discharge order was placed at 9:50 am until she physically left the hospital at 1:24 pm. The nearly four-hour delay was caused purely by logistical missteps. Pharmacy orders were at odds with her insurance coverage, initially there were no follow-up appointments scheduled, and no wheelchair was arranged though limited mobility was not a new challenge for her.

We noted that discharge rounds could address these barriers, but typically fail to do so without standardized structure for effective communication. During these rounds, case managers, social workers, and a charge nurse are seated in a conference room, while provider teams file in and out, briefly reporting on their patients. There is no clear leader of the meeting or specific agenda. As a result, the conversation may fail to cover issues related to discharge planning. Common barriers, such as nursing home placement, home oxygen therapy evaluations, and physical therapy consult recommendations can go undiscussed. The subsequent lack of clarity about next steps in discharge planning can lead to surprises and delays later in the process.

Resistance to Change/Change Fatigue

Hospital medicine is both hectic and steeped in tradition regarding roles, a combination that makes implementing new changes difficult. Physicians and nurses manage myriad tasks each day, often facing a relatively high degree of unpredictability about when and where key work steps will occur. Each stakeholder group also experiences a number of existing demands for compliance with workflow requirements and quality improvement initiatives, many of which are perceived to originate outside individual nurses’ or physicians’ scope of daily practice. As a result, many nurses and physicians with whom we spoke seemed weary at the suggestion of more change, even if that change could have relatively immediate benefit for their daily work.
**Estimating Date of Discharge**

Improving the planning process for discharge requires providers to correctly estimate a patient’s date of discharge, so that other care team members can anticipate when certain tasks must be completed. Multiple clinicians we interviewed expressed concern that the uncertain nature of disease and complexity of multi-organ pathophysiology prohibited accurate predictions.

**Observations from Addressing Root Causes: PDSA Cycles and Key Lessons**

We developed ideas to address root causes identified via current state analysis, and implemented several of these ideas in 3 PDSA cycles. These trials aimed to elucidate which ideas were most sound and which workflow process changes would be necessary to sustain broad implementation.

**PDSA #1**  
Our first intervention [A2.1] asked physicians from Medicine 2 and Medicine 3 inpatient teams to 1) classify patients as being >2 days, about 2 days, or 1 day away from discharge and 2) then record this estimated discharge date in their daily progress notes using a dot phrase [A2.3] in Epic. The night nurse for a given patient would read the estimated date of discharge in the chart and update a visual indicator [A2.2] hanging in the patient’s room, with the same 3 categories (>2, ~2, ~1 day to discharge).

The daytime nurse would then give the patient a packet containing three checklists [A2.4]. Each checklist corresponded to a color on the visual indicator (>2 days being red, ~2 days being yellow, ~1 day being green). The checklist contained conversation prompts for each category to help the patient discuss barriers to discharge. There was also a provider checklist [A4.4] organized into the same three categories, which listed items that needed to be addressed in order for patients to be discharged efficiently.

**PDSA #2**  
This intervention [A3.1] relied upon the patient’s primary nurse being called to the bedside during providers’ work rounds. We posted a tool called the “Daily Conversation Starter” [A3.2] on the wall in each patient room, which included a simplified list of 5-6 common barriers to discharge that the patient and nurse could discuss briefly before rounds. The tool included a script for the nurse to summarize any identified concerns during bedside rounds, and to prompt the provider to estimate the patient’s discharge date (still using the >2 days, ~2 days, or ~1 day until discharge categories). The nurse would then record the stated prediction in the Epic sticky note using a dot phrase.

**PDSA #3**  
Our final PDSA [A4.1] moved the process of identifying, discussing, and documenting estimated date of discharge to multidisciplinary discharge rounds for Medicine team 2 and Medicine team 3 on the AIP-1 9th floor.

The case manager, who organized and led multidisciplinary discharge rounds, would prompt the provider for a given patient to identify readiness for discharge in >2 days, ~2 days, or <24 hours.
The Patient Resident Liaison (PRL), who was already stationed at a computer during rounds, would use the appropriate Epic dot phrase [A2.3] to document the provider’s prediction in the Epic sticky note. Following rounds, the PRL would update the visual indicator [A4.3] in each patient room to reflect the estimated date of discharge. The PRL would also explain the meaning of the indicator to each patient.

**Key Lessons: Root Cause—MD-RN communication**

Prior improvement work on the unit had already sought to address this challenge. Specifically, an initiative was in place in which signs are placed daily on patient rooms, asking clinical teams to call the primary nurse to the patient’s room during bedside rounds with the providers. We anticipated that a more structured conversation at the bedside, focused on discharge planning, could eliminate communication failures. We designed a PDSA cycle (#2), involving two medicine teams. For those teams, the patient’s nurse would visit the patient prior to bedside rounds each morning, record patient concerns/barriers to discharge based on a 6-element checklist containing the most common barriers, and later report these concerns to provider team on rounds.

We quickly learned that medical teams frequently fail to call the nurse to bedside rounds, despite the existing communication initiative and signs on the doors [A3.3]. While prior analysis of compliance with the “call for rounds” initiative suggested teams contacted the primary nurse as much as 60% of the time, during our PDSA cycle teams called the primary nurse approximately 50% of the time. Our PDSA cycle therefore had little impact on bedside conversations related to discharge planning, given that relatively few conversations were occurring. We interviewed resident physicians about barriers to calling nurses to rounds, and identified the following reasons for the poor initiative compliance:

- “I forgot or did not have anything to tell them.”
- “It is not helpful when they do come.”
- “It interrupts workflow.”
- “It’s not in my routine.”

In addition, our observations revealed that, on occasions when nurses were called to join rounds, the prevailing culture and lack of role clarity hampered communication. Nurses often did not want to interject during medical team conversations, and the medical team, trying to work efficiently through rounds, often did not ask the nurse for input. As a result, our checklist was not routinely used to prompt focused conversation about discharge planning.

**Key Lessons: Root Cause—Discharge Rounding Structure and Estimating Date of Discharge**

Given the significant problems posed by disorganized discharge rounds, we sought to identify positive outliers—examples of highly effective discharge rounds on units at UCH—and to leverage key elements that address common communication failures during rounds.

The Acute Care for the Elderly (ACE) unit is an example of exemplary multidisciplinary discharge rounds. In the ACE model, the charge nurse leads the meeting, calling on the appropriate person to speak in a pre-determined sequence. Each team member’s role is clear, and the expectations of
which questions each individual should ask and what information s/he should provide about a patient is written on a poster board, hanging in the conference room.

The components of ACE rounds that we wanted to translate to the 9th floor were:

- A standardized script for multidisciplinary rounds
- A designated individual to facilitate rounds

On the 9th floor of AIP-1, a recent initiative had sought to redesign discharge rounds. In this pilot, a single case manager leads the meeting, and specifically inquires about discharge barriers. We designed a PDSA cycle (#3) to complement this work and build upon it.

In our PDSA 3 workflow, the case manager prompts the provider to estimate the patient’s discharge date (as >2 days, ~2 days, or ~1 day away from discharge). The PRL, already stationed at a computer, then inputs the prediction into the Epic sticky note using a dot phrase. After rounds, the PRL then updates the visual indicators hanging in the patient rooms.

Moving the discussion about estimated discharge date to multidisciplinary discharge rounds capitalized on the fact that all major stakeholders—physicians, nurses, case managers, PRL’s, social workers—would be in one room at the same time. Furthermore, the point of multidisciplinary discharge rounds is specifically to discuss discharge, so this was a natural time to ask physicians for discharge date predictions.

We calculated providers’ ability to correctly estimate discharge dates by comparing their predictions with dates that patients were actually discharged. In PDSA 1, when providers were estimating discharge in isolation, their accuracy was 54%. In PDSA 3, however, when providers were making their predictions during multidisciplinary rounds and receiving input from nurses, social workers, and case managers, their prediction accuracy rose to 76%. This increased prediction accuracy demonstrates the value of placing this task of estimating discharge date in the multidisciplinary discharge rounds.

**Key Lessons: Root Cause—Resistance to Change/Change Fatigue**

While we did not seek to directly address this root cause, it manifested repeatedly as a challenge in testing and implementing ideas.

For example, during our first PDSA cycle, night nurses displayed and updated the visual indicator 29% of the time (4/14), despite initial 100% physician compliance with documenting discharge date predictions in progress notes. Daytime nurses often did not explain the visual indicator to patients in a way that allowed the patients to tell us what the indicator meant (among patients who did have a visual indicator in their rooms, 0% reported sufficient explanation).

Similarly, of the eight patients that we interviewed during PDSA #1, 0% reported that they received the checklist of discharge barriers from their daytime nurse. Doctors utilized the provider checklist 0% of the time as well. One physician reported that she tucked the checklist in her white coat pocket and never looked at it again.
Similarly limited enthusiasm for testing our tools or new workflows occurred during PDSA #2, when we observed that 0% of nurses recorded patient concerns/barriers to discharge with the simplified checklist and 0% reported this type of information to physicians during bedside rounds, when bedside rounds occurred.

**Implementing Sustainable Change: Next-Step Recommendations:**

**Quick Wins:** We feel the medicine teams can implement the following changes immediately and without large disturbances in the current workflow.

**Formalize PDSA #3:**

We recommend continuation of PDSA cycle 3, leveraging the multidisciplinary discharge rounds structure on the AIP-1 9th floor to prompt prediction of discharge date, focused discussion of barriers, and recording of predicted discharge date by the PRL. With relatively minimal refinement and practice, we believe this model can be expanded across all inpatient general medicine teams. In addition, we believe that having a visual indicator in patient rooms increases transparency around the discharge process and prompts patients and providers alike to start thinking about discharge earlier in the hospital stay. This intervention creates minimal additional work for providers and nurses. Most workflow changes involve the PRLs, who—in the initial PDSA 3 cycle—have been open to these new responsibilities and have shown enthusiasm for participating consistently.

**Use a standard script during discharge rounds:**

This is a simple measure that we feel will add structure to discharge rounds and increase communication. We observed this model in use during the Acute Care for the Elderly (ACE) discharge rounds. The script ensured that each member of the team had a chance to give input and that any barriers to discharge were discussed.

We made a similar poster and displayed it in the conference room on the AIP-1 9th floor for medicine discharge rounds, where scripting of rounds conversations is underway. As PDSA cycle 3 is spread to other units, following a script will help make multidisciplinary rounds more effective and help identify possible barriers to discharge earlier.

**Strategic Initiatives:** The following recommendations require larger-scope changes that medicine teams and hospital units should work towards to improve hospital discharge, but will require substantial resources and/or time.

**One designated case manager per team:**

One of the major issues we identified with existing discharge rounds is that each medicine team works with multiple case managers. This causes confusion, results in redundant work, and wastes
time. For example, we observed an intern present four patients in rounds before someone told her that the case manager for those patients had stepped out to take a phone call. She then had to figure out which patients were being cared for by the team members in the room, and then re-present the original four patients again once the case manager returned.

Having multiple case managers working with each team also makes it easy for information to get lost or never communicated. One case manager told us during discharge rounds that she was supposed to be at a different set of discharge rounds, for a second team, at the same time and could not be in two places at once.

This designated case manager model is currently being piloted on Med 2 and Med 3 teams, based on the AIP-1 9th floor, and all teams have expressed increased satisfaction with this arrangement.

Having a designated case manager for every team is not the current hospital standard, due to challenges with geographic cohorting and staffing. Setting up geographic cohorting (see below), restructuring staffing, and/or hiring more case managers will be necessary before this recommendation can be implemented broadly, but we feel this is a worthwhile pursuit.

*Increase compliance with calling RNs to bedside rounds:*

The current initiative that asks medicine teams to call nurses to bedside rounds is only being carried out about 25-50% of the time. While the use of a shared visual indicator will likely help keep the entire care team and patient/family aware of the estimated date of discharge, we believe additional work to optimize the discharge process offers a major opportunity to enhance face-to-face communication between physicians and nurses. Nurses often know patients, their active concerns, and possible barriers to discharge better than anyone on the care team. Calling nurses to bedside rounds provides an opportunity for quick information exchange around discharge and other pertinent medical issues. Nurses and nurse managers also expressed a strong desire to be included in bedside rounds so they can be better aware of the care plan. We believe a simple tool, like the “Daily Conversation Starter”, which focuses on patient needs and utilizes a simple checklist that can be completed in a few minutes each day and reviewed in <60 seconds on bedside rounds, may offer a natural aid to facilitating this new set of behaviors. However, extensive physician and nurse leadership will be necessary to change culture, via consistent action and role modeling—particularly for residents, who rotate frequently and expressed numerous perceptions that talking to nurses during bedside rounds is not valuable. We recommend training attendings, residents, and medical students on the importance of having nurses present during bedside rounds to help increase compliance with calling nurses and create a more collaborative dynamic.

*Move patient education forward in the hospital stay:*

Currently, the bulk of patient education occurs in one brief episode, immediately prior to discharge. This model doesn’t leave time for patients to reflect on what they’ve been told, make sure they really understand the instructions, and develop questions. Moving patient education earlier and giving patients multiple exposures to new health information helps to reinforce important discharge
instructions. Patients will have several opportunities to discuss their conditions and ask questions. We also believe this will better prepare patients to follow their medication and care instructions when they get home, keeping them healthy and decreasing hospital readmissions. We would expect this to improve the low HCAHPs patient satisfaction scores in the “communication with nurses,” “communication with doctors,” and “communication about medications” categories. Moving this work upstream will require careful attention—and likely multiple PDSA cycles, with development of new tools/prompts—to determine on which pre-discharge days certain topics can and should be covered.

*Standardized resident training about discharge:*

During our stakeholder interviews, we talked with residents who described variability in the training they receive on preparing patients for discharge. One resident said that the attending he initially worked with spent the first week training residents on how to efficiently use Epic when discharging a patient. The attending encouraged residents to fill out the “discharge” tab in each chart as much as possible before the day of discharge. Working through this tab earlier allows the resident to anticipate potential discharge delays and place orders to address them. On the day of discharge, the only thing left to do is place the actual discharge order.

Not all residents, however, have been trained under this model of discharge planning. We recommend standardizing the resident training with this model—and specifically, focusing on practical knowledge about the discharge process and identification of barriers, rather than extensively and preferentially covering theoretical models about care transition. We feel that training attendings to teach all of their residents with this model should complement any universal, classroom-based didactics.

*Geographic cohorting:*

As previously described, the medicine discharge rounds we observed were often disorganized and chaotic. Much of this occurs because each medicine team works with multiple case managers, social workers, etc., for all of their patients. Trying to coordinate care and meetings with all of these different team members is difficult and leads to fragmented communication. Thus, the existing system makes it almost impossible to have an organized team, with clear roles, despite the hard work and good intentions of all team members. It also makes it difficult to have nurses present for discharge rounds.

Almost all of the stakeholders we talked to thought mimicking the geographically cohorted ACE unit would be beneficial. Working with the same people consistently on a team can help to clarify roles and speed up the workflow. The major barrier to switching to this model is the lack of geographic cohorting among medicine teams’ patients. With geographic cohorting, teams spend the vast majority of their time in one unit, instead of having patients on three or more floors at one time.
Geographic cohorting might not be an immediately achievable goal without changing the admission process, but it is perhaps the most important strategy that we can recommend to increase consistency of team performance.

Integration of a provider discharge checklist into Epic:

We believe a provider discharge checklist would help anticipate potential barriers to discharge. This checklist could be broken down according to how far a patient is from discharge (one day away, two days away, or greater than two days away, etc.) or by team member (i.e., case manager tasks, nurse tasks, etc.). We have provided an example provider checklist in the appendix [A4.4].

Such a checklist would clarify expectations and roles and help to avoid the day-of-discharge scramble. In order for this checklist to actually be used by providers, it is crucial that it be integrated into Epic. We found that team members were reluctant to carry around an extra sheet of paper as a reference. When we experimented with giving providers printed checklists, we received feedback and observed that people rarely, if ever, used the checklist. Most copies ended up lost or in the trash.

Integrating the checklist into Epic avoids the hassle of carrying around additional materials and makes accessing the checklist a seamless part of the existing workflow. A similar system, called the “discharge readiness report” is used for certain patients at Children’s Hospital and has impressively decreased length of stay and hospital readmission rates. We recommend the implementation of a similar tool for the medicine teams at UCH.
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Inpatient Internal Medicine – Discharge Process

A1.1: Process Map
A1.2: Cause and Effect Diagram

[Diagram showing cause and effect relationships with categories such as People, Environment, Materials, Equipment, and Methods.]

- Inefficient discharge with poor multidisciplinary communication
- Financial/Insurance issues
- Equipment
- Methods
- Materials
- People
- Environment
- Other
- No Geographic Collection
- No Common Communication Forum
- High Workload & Other Priorities
- No Team Presence for Rounding
- D/C Placement & Transportation
- Pre-D/C Tasks Initiated After 1PM
- Waiting on Consults/Procedures
- Waiting on Walker/Wheelchair
- Waiting on durable medical equipment
- Patient Education Delayed
- D/C Lounge Under-utilized
- Material Overload for Providers
- Medication Overload for Patients
- Changes in Medical Condition
- High Turnover/Staffing Issues
- Team Member Variability
- Physician/RN Culture
A2.1: PDSA 1 Details:

**PLAN DO STUDY ACT (PDSA) FORM**

Cycle #: 1  
Start Date: 7/16/2015   End Date: 7/20/2015

**Project Title:** Improving the Medicine Discharge Process  
**University/Organization Name:** Health Innovations Scholars Program - Young Hospitalist Academy  
**Health System Sponsor Name:** University of Colorado Health System

**Objectives of this Cycle:**
- [ ] Test a Change  
- [x] Implement a Change  
- [ ] Spread a Change

**Short objective of cycle:** The objective of this PDSA cycle was to determine if a particular attending physician and night nurse driven process of updating a visual indicator of patient discharge was feasible and adhered to.

**PLAN**

**Test/Implementation Plan:**

**What change will be tested or implemented?** Our intervention as designed for this PDSA cycle was to have the attending physician of the Medicine 2 Team enter an expected date of discharge via a short "dot phrase" into the electronic health record of each patient on their service. This expected date of discharge was bucketed into three categories, >2 days until discharge, 2 days until discharge, and 1 day until discharge. Based on this bucketing, the night nurse would update a stop light themed visual indicator in the patient room. The stop light themed indicator would correspond to a stop light themed patient checklist with items for the patient to review with their provider based on how many days were expected until discharge.

**How will the change be tested or implementation be conducted (consider small scale early)?** A meeting of the medicine 2 team with appropriate stakeholders will be held the day the PDSA cycle is being implemented. This meeting will include the nurse manager, the attending physicians of the medicine 2 team, and the NPs/PAs who could be affected by this change. The attending physician of the medicine 2 team will be specifically instructed to predict discharge in the EMR Sticky Note. The nurse manager will instruct the night nurses to read the sticky note and to update the visual indicator of patient discharge in the patient rooms. The nurse manager will also instruct the day nurses to educate the patients on the use of the stoplight themed discharge checklist and to bring these items to the attention of the provider.

**Who will run the test or implementation?** The test or implementation will be run by the entire HISP team with various education tasks and data collection to be performed by different members of the team.
**DO**

**Observations:**

*Record observations not part of the plan:* We were surprised to learn that individuals we expected to be very supportive of the project felt that the procedure did not increase the MD/RN communication sufficiently.

*Did you need to tweak the original Plan?* The original data collection plan and planned cycle did not need to be tweaked. Subsequent PDSA cycles will take into account learnings that we experienced during this particular PDSA cycle.

**Begin analysis of data [graph of the data, picture]:**

*Compliance with updating visual indicator of discharge in patient rooms*

![Graph showing compliance with updating visual indicator of discharge in patient rooms.](image)

Our process measure is the correct updating of for PDSA 1, we had a compliance rate of 32%. This was well below our goal compliance rate of 80%.
Where will the test or implementation take place? All patients of the Medicine 2 Team at the University of Colorado Hospital from July 16 to July 20, 2015.

When will the test or implementation take place? July 16 to July 20, 2015

Predictions:
1. Visual indicators will be updated in the patient rooms for the majority of patients based on the dot phrase entered in the EMR.
2. Patients will appreciate improved visibility and communication as to when they are expected to be discharged
3. Physicians can accurately predict date of discharge.
4. Day nurses will perform education on discharge checklists to patients.

Data Collection Plan:

What information is important to collect? Compliance rates: 1) Entering estimated date of discharge in the sticky note by the attending physician. 2) If the visual indicator of discharge was updated in patient rooms 3) Are patients aware of the checklist and have they been educated on the use of the checklist?

Qualitative feedback: 1) Do providers believe this is an important tool? 2) Do patients appreciate the visual indicator and checklist information?

Physician ability to predict discharge: Do providers accurately predict discharge? This will be measured by a retrospective analysis of the accuracy of the dot phrase as compared to the actual date of patient discharge.

Why is it important? These data points are important to assessing whether or not this tool is able to be implemented as envisioned and if it will improve both interdisciplinary communication surrounding the discharge process as well as patient-provider communication surrounding the discharge process.

Who will collect the data? All students of the summer Young Hospitalist Academy (YHA)

Who will analyze the data prior to Study? William Archibald and Khloe Frank, the data analysis subset team of the YHA.

Where will data be collected? In patient rooms and through the use of the Electronic Medical Record. The data will be collected by members of the team by going to the patient rooms and interviewing patients.

When will the collection of data take place? Starting July 17, 2015

How will the data (measures or observations) be collected? In a shared Google Drive spreadsheet which was developed prior to the implementation of this PDSA cycle.
Learning (Comparison of questions, predictions, and analysis of data): Based on our analysis of the data for the two PDSA cycles where we tracked physicians’ ability to predict discharge (PDSAs 1 & 3), physicians are able to accurately predict discharge 76% of the time (with an n of 38 patient predictions). We believe that this is the crux of improving the communication around the discharge process and preventing surprise discharges. Thus, we are encouraged by the results of our physicians being able to accurately predict the date of discharge.

4. Prediction: Day nurses will perform education on discharge checklists to patients

Learning (Comparison of questions, predictions, and analysis of data): Feedback we received regarding the discharge checklist indicated that the discharge checklist was too densely worded and that day nurses did not educate patients as a result of not fully understanding their role in the process. We believe that there are opportunities to simplify the checklist and to take into account provider and patient feedback to improve this aspect of the intervention.

Summary (Look at your data. Did the change lead to improvement? Why or why not?): The change led to an improvement in compliance (against a baseline of zero), however, outcome measures are not clear enough for this short of a trial to indicate whether or not this improved communication among the team. We believe that there are opportunities in who updates the Sticky Note and who updates the visual indicator.

ACT

Describe next PDSA Cycle: Based on the learning in “Study,” what is your next test? Based on feedback from this cycle, we noted that stakeholders want more face-to-face interprofessional communication (for example, MD/RN communication at bedside rounds). Thus, we are going to attempt to integrate the updating of the estimated date of discharge into the bedside rounds that occur each morning on the next PDSA cycle. Additionally, we are going to try to simplify the patient discharge checklist in order to reduce the burden on the nurse to educate patients.
We also found that physicians are able to accurately predict discharge for this PDSA cycle approximately 53% of the time. Refer to our run chart above for physician ability to predict discharge which was measured for PDSA cycles 1 & 3. PDSA cycle 2 was omitted from this analysis as physician estimates of discharge were not recorded due to low compliance with our intervention.

Questions: Copy and paste Questions and Predictions from Plan above and evaluate learning. Complete analysis of the data. Insert graphic analysis whenever possible.

1. **Prediction:** Visual indicators will be updated in the patient rooms for the majority of patients based on the dot phrase entered in the EMR.

   **Learning (Comparison of questions, predictions, and analysis of data):** We noted a compliance rate of only 32% with updating the visual indicator in the room. This was well below our target of 80% compliance. However, we did note that when the visual indicator was updated, the visual indicator was updated accurately in accordance with the dot phrase. We believe that there is a better place to have the estimated date of discharge recorded than by the attending physician as feedback we received indicated that attending physician behavior is very difficult to change and is not part of their existing workflow.

2. **Prediction:** Patients will appreciate improved visibility and communication as to when they are expected to be discharged.

   **Learning (Comparison of questions, predictions, and analysis of data):** Patients that gave us qualitative feedback indicated dissatisfaction with communication surrounding the discharge process and that they had not received education on how to use the visual indicator in conjunction with the checklist we gave them.

3. **Prediction:** Physicians can accurately predict date of discharge.
A2.2: Visual Indicator Prototype

Your path to leaving the hospital:

More than two days.  Two days.  Less than 24 hours.

Your path to leaving the hospital:

More than two days.  Two days.  Less than 24 hours.

Your path to leaving the hospital:

More than two days.  Two days.  Less than 24 hours.
A2.3: Dot Phrase Card

DO YOU D/C?

.DC3: > 2 days to discharge

.DC2: 2 days to discharge

.DC1: Discharge tomorrow
Work through this checklist when you see the red runner on your whiteboard. Please let the nurse know if you need help with any of the checklist items.

<table>
<thead>
<tr>
<th>Action Items</th>
<th>Yes/No</th>
<th>Comments/Questions</th>
</tr>
</thead>
<tbody>
<tr>
<td>Are you able to do the following activities? If not, circle the activities you need help with.</td>
<td></td>
<td></td>
</tr>
<tr>
<td>- Bathing</td>
<td></td>
<td></td>
</tr>
<tr>
<td>- Dressing</td>
<td></td>
<td></td>
</tr>
<tr>
<td>- Using the bathroom</td>
<td></td>
<td></td>
</tr>
<tr>
<td>- Food shopping</td>
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</tr>
<tr>
<td>- Cooking</td>
<td></td>
<td></td>
</tr>
<tr>
<td>- Homework</td>
<td></td>
<td></td>
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<tr>
<td>- Paying bills</td>
<td></td>
<td></td>
</tr>
<tr>
<td>- Getting to doctor's appointments and picking up prescriptions</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Can your family and friends provide any additional care needs that you may have? If not, please let a staff member know.</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Have you shared your health insurance status with your provider? Have there been any recent changes with your insurance?</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Have you been educated about your medical condition by your doctor or nurse?</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Let your provider know which pharmacy you use.</td>
<td></td>
<td></td>
</tr>
<tr>
<td>For family and friends:</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Do you have any questions about your patient's condition or care plan?</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Do you need any additional training to help take care of your patient after discharge from the hospital? If yes, please talk to your provider.</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Work through this checklist when you see the yellow runner on your whiteboard. Please let the nurse know if you need help with any of the checklist items.

<table>
<thead>
<tr>
<th>Action Items</th>
<th>Yes/No</th>
<th>Comments/Questions</th>
</tr>
</thead>
<tbody>
<tr>
<td>Are you able to do the following activities? If not, circle the activities you need help with.</td>
<td></td>
<td></td>
</tr>
<tr>
<td>- Bathing</td>
<td></td>
<td></td>
</tr>
<tr>
<td>- Dressing</td>
<td></td>
<td></td>
</tr>
<tr>
<td>- Using the bathroom</td>
<td></td>
<td></td>
</tr>
<tr>
<td>- Food shopping</td>
<td></td>
<td></td>
</tr>
<tr>
<td>- Cooking</td>
<td></td>
<td></td>
</tr>
<tr>
<td>- Homework</td>
<td></td>
<td></td>
</tr>
<tr>
<td>- Paying bills</td>
<td></td>
<td></td>
</tr>
<tr>
<td>- Getting to doctor's appointments and picking up prescriptions</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Do you have a side setup for when you leave the hospital?</td>
<td></td>
<td></td>
</tr>
<tr>
<td>If you are currently on oxygen in the hospital, have you been evaluated for home oxygen?</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Has your nurse given you education to help you learn about your condition?</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Do you have follow-up appointments scheduled? Please let us know if you need help making follow-up appointments.</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Do your regular home medications need refill? If yes, let your doctors know so they can refill them.</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Have you been educated on any new changes in diet? If not, please let a staff member know.</td>
<td></td>
<td></td>
</tr>
<tr>
<td>For family and friends:</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Do you have any questions about your patient's condition or care plan?</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Do you need any additional training to help take care of your patient after discharge from the hospital? If yes, please talk to your provider.</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
Work through this checklist when you see the green runner on your whiteboard. Please let the nurse know if you need help with any of the checklist items.

<table>
<thead>
<tr>
<th>Action Items</th>
<th>Yes/No</th>
<th>Comments/Questions</th>
</tr>
</thead>
<tbody>
<tr>
<td>Has a pharmacist or nurse reviewed your final medication list with you?</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Please ask your nurse if you have any remaining questions about your medication list.</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Do you have a side setup for when you leave the hospital tomorrow? There is a discharge lounge where you can comfortably wait for your ride.</td>
<td></td>
<td></td>
</tr>
<tr>
<td>If you are currently on oxygen in the hospital, have you been evaluated for home oxygen?</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Will you need a walker, wheelchair, or cane to safely leave the hospital?</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Do you have any questions about your medical condition or any further care that you may need outside of the hospital?</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Do you have any questions about where you will be staying after you leave the hospital?</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Do you or your relative need a note for work?</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Have you been educated on any new diet changes! If not, please let a staff member know.</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Do you understand the education and instructions you've been given?</td>
<td></td>
<td></td>
</tr>
<tr>
<td>For family and friends: Do you have any questions about your patient's condition or care plan?</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Do you need any additional training or help to take care of your patient after discharge from the hospital? If yes, please talk to your provider.</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
### A3.1: PDSA 2 Details

#### PLAN DO STUDY ACT (PDSA) FORM

**Cycle #2**

**Start Date:** 7/20/2015  
**End Date:** 7/21/2015

**Project Title:** Improving the Medicine Discharge Process

**University/Organization Name:** Health Innovations Scholars Program - Young Hospitalist Academy

**Health System Sponsor Name:** University of Colorado Health System

**Objectives of this Cycle:**
- [X] Test a Change
- [ ] Implement a Change
- [ ] Spread a Change

**Short objective of cycle:** The objective of this PDSA cycle was to determine if the addition of a "daily conversation starter" to patient rooms would empower nurses on morning work rounds to update the estimated date of discharge in the electronic medical record and update a corresponding visual indicator in the patient rooms.

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#### PLAN

**Test/Implementation Plan:**

**What change will be tested or implemented?** Our intervention as designed for this PDSA cycle, based on feedback from PDSA cycle 1 was to provide an enhanced opportunity for interprofessional communication surrounding the discharge process. There is an ongoing project on the medicine floors for the rounding physicians in the morning to call the RN to join them at bedside rounds. As part of this ongoing project, we believe that we can add the updating of the Sticky Note by having the RN ask at bedside rounds what the estimated date of discharge for each patient is. They would then update the stoplight themed visual indicator of discharge. A simplified checklist called the daily conversation starter would be placed in the room indicating the most commonly identified barriers to discharge. These commonly identified barriers to discharge can be discussed at bedside rounds by the RN.

**How will the change be tested or implemented (consider small scale early)?** This will be implemented by educating the day nurses. Each day nurse on a Medicine 2 patient will be instructed about the daily conversation starter and will be instructed that when they are called to bedside rounds they should ask the attending physician what the estimated day of discharge is and then use a dot phrase to enter this into the Epic Sticky Note. The visual indicator will then be updated based on the (>2, 2, 1 days until discharge stoplight theme).

**Who will run the test or implementation?** The test or implementation will be run by the entire HISP team with various education tasks and data collection to be performed by different members of the team.
**DO**

**Observations:**

*Record observations not part of the plan:* We were surprised to learn that the nurses on bedside rounds were very reluctant to chime in and ask what the doctors plan was. We expected some reluctance, but the lack of compliance was surprising. Additionally, we learned that the bedside round nurse is called at a rate of approximately 25% of the time, which is far too low for our intervention to succeed in the long run.

*Did you need to tweak the original Plan?* We did not need to tweak the original plan during the process of running the PDSA cycle number 2.

*Begin analysis of data (graph of the data, picture):*

Compliance with updating visual indicator of discharge in patient rooms

![Graph showing compliance rates over PDSA cycles](chart.png)

We discovered that we had a zero compliance rate which is down from the 32% compliance rate that we had prior to this. Refer above for our run chart for our 3 PDSA cycles which reviews compliance with updating the visual indicator in the patient room.

**STUDY**
Where will the test or implementation take place? All patients of the Medicine 2 Team at the University of Colorado Hospital on July 21, 2015.

When will the test or implementation take place? Education of bedside nurses will be conducted on July 20, 2015 with the test of the bedside rounding process being implemented on July 21, 2015.

Predictions:
1. Visual indicators will be updated in the patient rooms for the majority of patients based on the day phrase entered in the EMR.
2. Nurses will be called to bedside rounds and will ask the attending physician what the estimated date of discharge for each patient.
3. Patients and nurses will appreciate the simplification of the discharge checklist into a much less dense version which can be read easily.
4. Patients will appreciate improved visibility and communication as to when they are expected to be discharged.

Data Collection Plan:

What information is important to collect? Compliance rates: 1) Entering estimated date of discharge in the sticky note by the nurse at bedside rounds. 2) If the visual indicator of discharge was updated in patient rooms. 3) Are patients aware of the daily conversation starter and have they been educated on the use of the daily conversation starter?

Qualitative feedback: 1) Do providers believe this is an important tool? 2) Do patients appreciate the visual indicator and checklist information?

Why is it important? These data points are important to assessing whether or not this tool is able to be implemented as envisioned and if it will improve both interdisciplinary communication surrounding the discharge process, as well as patient-provider communication surrounding the discharge process.

Who will collect the data? All students of the summer Young Hospitalist Academy.

Who will analyze the data prior to Study? William Archibald and Khloe Frank, the data analysis subset team of the YHA

Where will data be collected? In patient rooms and through the use of the Electronic Medical Record. The data will be collected by members of the team by going to the patient rooms and interviewing patients.

When will the collection of data take place? Starting the day after the implementation of the PDSA cycle, i.e. July 21, 2015

How will the data (measures or observations) be collected? In a shared Google Drive spreadsheet which was developed prior to the implementation of this PDSA cycle.
ACT

**Describe next PDSA Cycle:** Based on the learning in “Study,” what is your next test? Based on our low compliance rate at bedside rounds, we are going to attempt to implement the updating of the dot phrase in Epic into the multidisciplinary discharge rounds which occur every morning at 10:30 AM. We noted that attendings, residents, and day nurses have extremely high workloads and that these workloads are not conducive to adding a visual indicator of discharge into their responsibilities. We will attempt to intervene using the PRL, who is an individual who has capacity and enthusiasm for integrating this into his/her workload in the next PDSA cycle.
**Questions:** Copy and paste Questions and Predictions from Plan above and evaluate learning. Complete analysis of the data. Insert graphic analysis whenever possible.

1. **Prediction:** Visual indicators will be updated in the patient rooms for the majority of patients based on the dot phrase entered in the EMR.

   **Learning (Comparison of questions, predictions, and analysis of data):** We learned that the compliance rate for this particular PDSA cycle was zero percent as measured by the updating of the visual indicator was zero. This indicates that the bedside rounds and the day RN is not the best place to have the visual indicator updated.

2. **Prediction:** Nurses will be called to bedside rounds and will ask the attending physician what the estimated date of discharge for each patient.

   **Learning (Comparison of questions, predictions, and analysis of data):** Nurses were often not called to bedside rounds. If they were called to bedside rounds, they did not ask the physician what the estimated date of discharge was because it was not a normal part of their workflow and the education that the PDSA implementation team gave was likely inadequate for them to fully understand their new role. In future PDSA cycles, we will have more formal educational processes to ensure that participants in our intervention are clear as to what their role is.

3. **Prediction:** Patients and nurses will appreciate the simplification of the discharge checklist into a much less dense version which can be read easily.

   **Learning (Comparison of questions, predictions, and analysis of data):** The qualitative feedback we received on the simplified checklist was positive. We believe that if a patient checklist is included in our intervention going forward, this particular version of the checklist is much more user-friendly and is the format we will retain going forward.

4. **Prediction:** Patients will appreciate improved visibility and communication as to when they are expected to be discharged.

   **Learning (Comparison of questions, predictions, and analysis of data):** Similar to the first PDSA cycle, patients that gave us qualitative feedback indicated dissatisfaction with communication surrounding the discharge process and that they had not received education on how to use the visual indicator in conjunction with the checklist we gave them.

**Summary** (Look at your data. Did the change lead to improvement? Why or why not?): The change did not lead to an improvement. Compliance was lower than our first PDSA cycle. This is because the education for the nurses was inadequate as well as we believe there are too many variables which negatively impact compliance. For example, the attending rarely calls the nurse to bedside rounds and therefore we need to simplify the workload in our next PDSA cycle. It appears that bedside rounds is not the place to perform our intervention, and that we should be focused on the multidisciplinary discharge rounds for our next PDSA cycle. The reason we are going to focus on multidisciplinary discharge rounds is we noted during this cycle that the Patient-Resident Liaison (PRL) sits in on discharge rounds, at a computer that is logged into Epic and records follow up appointments that they will need to make with caregivers outside the hospital. It appears that we could institute an addition into his workflow of recording the estimated date of discharge for our next PDSA cycle.
A3.2: Daily Conversation Starter
A3.3: Pareto Diagram – Reasons RNs Not Called to Work Rounds

Reasons Physicians Did Not Call Nurses to Work Rounds

- Forgot or did not have anything to tell them
- Low yield or not helpful
- Time it takes (approx. 30 sec estimated)
- Called previously but no answer, so didn’t call next time
- Interrupts work flow/not in my routine
- Doesn’t decrease number of pages I get/no incentive
- RN already there
- Assumed they were busy

# Physicians

Cumulative %
A4.1: PDSA 3 Details

**PLAN DO STUDY ACT (PDSA) FORM**

**Cycle #:3**

Start Date: 7/21/2015   End Date: 7/27/2015

**Project Title:** Improving the Medicine Discharge Process

**University/Organization Name:** Health Innovations Scholars Program - Young Hospitalist Academy

**Health System Sponsor Name:** University of Colorado Health System

**Objectives of this Cycle:**
- ✗ Test a Change
- ✓ Implement a Change
- □ Spread a Change

**Short objective of cycle:** The objective of this PDSA cycle was to determine if an intervention to update a visual discharge indicator through a case manager and PRL (patient resident liaison) driven process could improve multidisciplinary communication and patient experience surrounding discharge.

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**PLAN**

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**Test/Implementation Plan:**

**What change will be tested or implemented?** Our intervention will involve the following. During interdisciplinary discharge rounds for the medicine 2 and 3 teams, the case manager assigned to those teams will query the provider presenting each patient for when the patient is expected to be discharged. When this answer is given, the patient-resident liaison will update the dot phrase in Epic indicating when the patient is expected to be discharged (>2 days, 2 days, 1 day). After multidisciplinary discharge rounds are conducted, the PRL will go to each patient room and update the visual indicator of discharge to the appropriate stoplight themed setting (red for >2, yellow for 2, green for 1).

**How will the change be tested or implementation be conducted (consider small scale early)?** In order to implement this intervention, we will educate the case manager of the Medicine 2 and Medicine 3 teams. Additionally, we will educate the PRL on how to update the visual indicator and how to put the dot phrase in each patient's sticky note in Epic.

**Who will run the test or implementation?** The test or implementation will be run by the entire HISF team with various education tasks and data collection to be performed by different members of the team.

**Where will the test or implementation take place?** All patients of the Medicine 2 Team at the University of Colorado Hospital from July 21 to July 27, 2015.
**DO**

**Observations:**

*Record observations not part of the plan:* No observations not part of the plan were noted for PDSA 3.

*Did you need to tweak the original Plan?* The original data collection and planned cycle did not need to be tweaked.

**Begin analysis of data (graph of the data, picture):**

*Compliance with updating visual indicator of discharge in patient rooms*

Our compliance rate was 82.5% for the visual indicator being updated appropriately in the patient rooms. This is encouraging for our project going forward, as we believe that the visual indicator will enhance interdisciplinary provider communication, patients will be more aware of when they are going to be discharged, leading to enhanced satisfaction with the discharge process and enhanced teamwork among hospital staff. Refer above for our run chart of this process measure.
When will the test or implementation take place? July 21 to July 27, 2015

Predictions:
1. The Case Manager will appropriately ask the provider the estimated date of discharge in multidisciplinary discharge rounds.
2. The PRL will appropriately update the Sticky Note in Epic with a dot phrase indicating the estimated date of discharge.
3. Visual indicators will be updated in the patient rooms by the PRL for the majority of patients based on the dot phrase entered in the EMR.
4. Physicians can accurately predict date of discharge.

Data Collection Plan:

What information is important to collect? Compliance rates: 1) Entering estimated date of discharge in the sticky note by the PRL. 2) If the visual indicator of discharge was updated in patient rooms.

Qualitative feedback: 1) Do providers believe this is an important tool? 2) Are people in the workflow for this intervention willing and able to perform these tasks and do they believe they are helpful for improving interdisciplinary communication regarding the discharge process? 3) Do patients appreciate the visual indicator?

Physician ability to predict discharge: Do providers accurately predict discharge as measured by a retrospective analysis of the accuracy of the dot phrase as compared to the actual date of patient discharge.

Why is it important? These data points are important to assessing whether or not this tool is able to be implemented as envisioned and if it will improve both interdisciplinary communication surrounding the discharge process as well as patient-provider communication surrounding the discharge process.

Who will collect the data? All students of the summer Young Hospitalist Academy

Who will analyze the data prior to Study? William Archibald and Khloe Frank, the data analysis subset team of the YHA

Where will data be collected? In patient rooms and through the use of the Electronic Medical Record (Epic). The data will be collected by members of the team by going to the patient rooms and interviewing patients. Additionally, multidisciplinary discharge rounds will be observed to determine whether or not the case manager is asking the attending physician the estimated date of discharge.

When will the collection of data take place? Starting the day after the implementation of the PDSA cycle.

How will the data (measures or observations) be collected? In a shared Google Drive spreadsheet which was developed prior to the implementation of this PDSA cycle.
Learning (Comparison of questions, predictions, and analysis of data): The PRL reliably updated the Sticky Note in Epic with a dot phrase indicating the estimated date of discharge for patients in which an estimated date of discharge was verbalized in discharge rounds (which was a very high percentage of them).

3. Prediction: Visual indicators will be updated in the patient rooms by the PRL for the majority of patients based on the dot phrase entered in the EMR.

Learning (Comparison of questions, predictions, and analysis of data): Visual indicators were updated in patient rooms by the PRL for the majority of patients based on the dot phrase entered in the EMR.

4. Prediction: Patients will appreciate improved visibility and communication as to when they are expected to be discharged.

Learning (Comparison of questions, predictions, and analysis of data): Based on our analysis of the data for the two PDSA cycles where we tracked physicians ability to predict discharge (PDSAs 1 & 3), physicians are able to accurately predict discharge 76% of the time (with an n of 38 patient predictions). We believe that this is the crux of improving the communication around the discharge process and preventing surprise discharges. Thus, we are encouraged by the results of our physicians being able to accurately predict the date of discharge.

Summary (Look at your data. Did the change lead to improvement? Why or why not?): Our change led to clear improvements in compliance. Compliance rate was 82.5% for updating the visual indicator in the patient room, whereas in the two previous PDSA cycles, they were 32% and 0%, respectively. Based on these measures, it is clear that the PRL is the individual who should be charged with updating the Sticky Note in Epic and the visual indicator in patient rooms. Additionally, we learned that physicians are fairly good at predicting discharge, indicating that this tool is a reliable and accurate method of communicating to all individuals on the team when patients are expected to be discharged.

ACT

Describe next PDSA Cycle: Based on the learning in "Study," what is your next test? As this PDSA cycle is considered a success due to high compliance rates and appears to improve the communication process surrounding discharge, we will hand this project off to full-time permanent employees of the University of Colorado Hospital to continue our work going forward. We ask that outcome and balancing measures (particularly HCAHP scores which were not available due to the short timeline of our project) be monitored for improvements surrounding care transitions and communication. We believe that this intervention has potential to improve these measures significantly and we hope that our work is continued going forward.
We also found that physicians are able to accurately predict discharge for this PDSA cycle approximately 70% of the time. Refer to our run chart above for physician ability to predict discharge which was measured for PDSA cycles 1 & 3. PDSA cycle 2 was omitted from this analysis as physician estimates of discharge were not recorded due to low compliance with our intervention.

**STUDY**

**Questions:** Copy and paste Questions and Predictions from Plan above and evaluate learning. Complete analysis of the data. Insert graphic analysis whenever possible.

1. **Prediction:** The Case Manager will appropriately ask the provider the estimated date of discharge in multidisciplinary discharge rounds.

   Learning (Comparison of questions, predictions, and analysis of data): During the interdisciplinary discharge rounds, we noted that the case manager appropriately queried the provider when the patient was going to be discharged if this information was not readily provided. Attendings were more than willing to provide estimates of discharge. This area had been identified in PDSA 1 as a potential roadblock to our project.

2. **Prediction:** The PRL will appropriately update the Sticky Note in Epic with a dot phrase indicating the estimated date of discharge.
A4.2: Pareto Diagram – Reasons Patients Did Not Find Visual Indicator Useful

Reasons Patients Did Not Find Indicator Useful

- Seems unnecessary for my discharge preparation
- Depressing because I know I will have a long stay
- Too sick to use

# Patients

Cumulative %

0 1 2 3

0 20 40 60 80 100

Seems unnecessary for my discharge preparation
Depressing because I know I will have a long stay
Too sick to use

Reasons

Count
Cum %
A4.3: Final Visual Indicator

Your path to leaving the hospital:

More than two days. Two days. Less than 24 hours.

For patient, family, and friends:
This is a tool to help you understand how many days your care team estimates you have left before leaving the hospital. Please ask your care team if you have questions or need help planning as you prepare to leave.
A4.4: Provider Checklist

Provider Checklist

1. Discharge
   - Order D/T/GT for placement or transition to home
   - Confirm PAS read rec, if none, request from RN or pharmacist
   - Notify CM if Pt will need SNP

2. Day of Discharge
   - Begin patient education, consult with RN about follow-up
   - Order PT consult for home oxygen
   - Communicate with PHL about scheduling for follow-up
   - Notify CM if Pt will need durable medical equipment or home care

3. Discharge Summary
   - Pre-complete “Discharge” section of Epic
   - Complete task 4c within discharge order set
   - Confirm transportation and pickup time
   - Consult with RN for other known barriers

Day of Discharge
   - Place discharge order set
   - Add additional instructions to AVS and sign FNA
   - Sign prescriptions for controlled substances
   - Final patient education: explain potential symptoms, expectations for new location, and reasons to go to ED
   - If ride not available, tell patient about discharge transport
A4.5: Discharge Rounds Prompt Poster

**Physician**
- Primary medical condition
- New problem/diagnosis
- Plan for the day
- New physical or cognitive impairments
- Anticipated day of discharge

**Nurse**
- General concerns
- Any lines or tethers to eliminate
- Change in assessment—skin, mobility, pain, etc.
- Plan for D/C pt. and family education, transportation, O2, medications, etc.

**Case Manager/Social Worker**
- Barriers to discharge
- Safety issues
- Additional services
- Progress on discharge, including placement updates

**Checklist for Discharge**

**Home Care Needs**
- Home care set-up
- Equipment
- PT/OT
- Home oxygen

**Pharmacy**
- Fill at inpatient pharmacy

**Other**
- Transportation home
- Wound care/dressings
- Follow-up appt. plan
- Care Notes
- Resources/other
A5.1: Run Chart of Compliance Through PDSAs 1-3

Compliance with updating visual indicator of discharge in patient rooms

PDSA Cycle
A5.2: Run Chart of Physician Prediction Accuracy Through PDSAs 1 and 3

Percentage of Patients with Accurate Predicted Date of Discharge By PDSA Cycle

- Median
- Goal

PDSA Cycle
Thank You to Our Supporters!

We especially appreciate the mentorship and dedication of YHA staff and faculty. Thank you for your support and enthusiasm!

Jeffrey Glasheen, MD
Emily Gottenborg, MD
Read Pierce, MD
Emilie Keeton