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Discharge Process Improvement at Memorial Health System

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Discharge Process Improvement

Changing an organizationwide process requires cross-functional participation and goals

Like many healthcare organizations across the country, Memorial Health System in the Mid-Ohio Valley has tried to improve its discharge process in order to ensure it can promptly accommodate demand for beds, especially demand coming from its emergency department (ED). The difficulty in changing any discharge process, though, is that it will likely impact the entire organization and touch multiple functions, roles, and responsibilities.

“It’s been on our radar screen and an issue for years,” says DeeAnn Gehlauf, vice president, business and organization development. “We’ve chipped around the edges of this on more than one occasion.” She says two past improvement efforts were difficult to sustain because those projects lacked strong ownership and oversight of the hospitalwide discharge process. But those project factors — and the need for improvement — have rapidly changed. A surge in patient visits to Memorial Health System presented a unique opportunity to establish affinity with a new patient base, and, not surprisingly, also strained the hospital’s discharge process.

“More patients means more bed demand,” says Gehlauf. “And when you have a process that’s bogged down, bottlenecked, and not flowing well, that does not bode well for putting more in the pipeline. We have a limited window of opportunity with a patient base that’s not experienced us before, who are coming to us from our competitor. If they don’t have a good experience, then we gain no ground.”

Memorial Health System had added a number of initiatives to its strategic plan to leverage the new-patient opportunity, such as a new freestanding emergency department and new specialties and advanced surgical capabilities. These additions have further contributed to the demand for beds. But the convergence of the business opportunity with the increasing severity of the discharge problem added the key component needed to spur sustainable change: *organizational* awareness and support.

The Bed Bottleneck

In August 2014, the hospital’s discharge process resulted in a red bed-alert status for 45 percent of the month and a yellow status 39 percent of the month. A red status means that few if any critical-care, medical-surgical, or telemetry beds are available for patients. A green status indicates there

Memorial Health System

The not-for-profit Mid-Ohio Valley health system has been operating for 90 years and includes:

- 199-bed acute-care Marietta Memorial
- 25-bed critical-access hospital Selby General
- Retirement community
- Nursing and rehabilitation center
- Two express-care centers
- Freestanding emergency department

At the end of FY 2014:

- 9,000 admissions
- 421,500 outpatients
- 55,200 emergency visits,
- 62,000 cancer treatments.

are an adequate number of beds available, and a yellow status indicates that beds are available but there is little buffer left. This is an inpatient bed issue, notes Gehlauf, that ripples its way back to ED: 40 patients with admission orders were held in the ED at some time during August while they waited for a bed to open.

Mike McGowan, director of process excellence, says the discharge problem has gradually grown and is somewhat self-inflicted. Memorial Health System organizational changes, which included movement of existing staff to cover new services without an increase in resources, was necessary to improve productivity throughout the hospital. But those changes occurred without substantive changes to hospital processes, and now “productivity and the increased volume have created a sense of urgency that people have to change.”

“There’s a good lesson learned,” adds Gehlauf. “We started on this journey to create a lean culture years ago, and we knew it was the right thing to do. But we were not as disciplined about it as we should have been, and we didn’t elevate the importance of it as much as we should have. If we had — and had done the heavy lifting on the process side of the house five years ago — we wouldn’t feel this sort of perfect storm of pain right now.” She says the combination of these events and the opportunity to train at the Academy for Excellence in Healthcare (AEH) at The Ohio State University helped to “refocus our energy” on improving the discharge process. It also created an opportunity to establish improvement goals that are organizational goals and the goals of many directors and supervisors.

Memorial Health System Improvement Team

- **AEH cross-functional team:**
 - Dr. Dan Breece, Director Emergency Department
 - Dr. Chris Cockerman, Director Hospitalists
 - Juanita Duff, Director Throughput/Bed Placement
 - Dakota Collins, RN
 - DeeAnn Gehlauf, VP Business and Organization Development
 - Mike McGowan, Director Process Excellence
- **Team additions:**
 - Associate VP Patient Services
 - Director Care Management
 - Cardiology Office Manager
 - Continuous-Improvement Specialists
 - Housekeeper
 - Transport Dispatcher
 - Discharge Nurse

The organizational importance of the problem is illustrated by the cross-functional team that attended the AEH training program in autumn 2014 and the teams that formed after AEH training (see *Memorial Health System Improvement Team*). Unlike past discharge-process improvement projects, this one involves physicians. “We’ve got to have the physician involvement in order for this to be successful,” says Gehlauf.

Decisions to admit, move, and discharge patients are driven by physicians and hospitalists

activities, such as rounding times through the hospital and rounding priorities of the physicians (e.g., round to sickest first and then to healthiest). “Without the physicians being involved, there’s only so

many workarounds that the nursing staff and all of the other participants in the process can put into place. You hit a brick wall. There's a certain amount of this process that's owned by the physicians."

The AEH training allowed the range of participants to collectively examine the "whole picture" of the discharge process in great detail, including patient and information flow and the unique roles of all parties and how they interact, says McGowan. For example, physicians saw how the timing of discharge orders affects the reaction times of the rest of the hospital (e.g., imaging, labs) and can facilitate or delay a timely discharge. "Anytime we get folks in a room — whether it be physicians, lab folks, transporters, nursing — and begin to understand what that other person does during their day, there's a lot of real learning and sharing that goes on."

"I think it was particularly beneficial to have the physicians there learning — not only learning about the tools, but learning about all the other pieces that are affected or a part of this process that they're in," adds Gehlauf. The training also brought techniques to all participants, such as use of A3s and the A3 process and value-stream mapping, that give them a standard approach to analyze and communicate about the problem.

McGowan says it takes time to understand that this is the right approach for problem solving, and it takes investing time in actually doing it in order to believe it can work — which is not easy in a busy healthcare environment. The AEH training presented a setting for this to occur and for everyone to focus on improving *the business*. And, he adds, having two respected physicians willing to take on team roles not only engaged them in the change process but also added credibility to the effort.

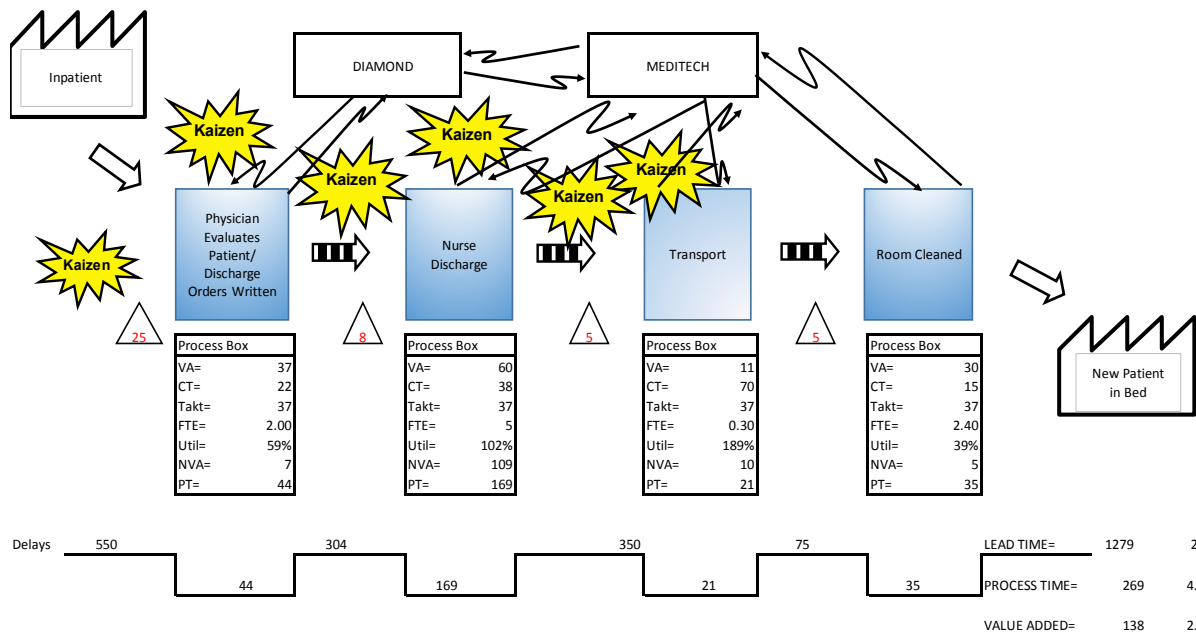
The Whole Picture of the Discharge Process

The Memorial Health System improvement team developed a value-stream map of the discharge process. Juanita Duff, director of throughput/bed placement, became the value-stream owner for the project. The mapping work (see *Discharge Process Current State*) identified six areas where a kaizen could potentially impact problem causes, and further team analysis found three overarching deficiencies:

- Lack of standard work — variability in work, such as the way rounds were conducted, the communication of discharge orders, and nurses' handling of discharge instructions.
- Lack of communication and non-standard handoffs — the discharge process ran through many silos within the hospital.
- Lack of agreement on steps of the discharge process and who "owns" those activities — a single, value-stream perspective and oversight of the process was lacking.

The team identified one key cause that prevented timely discharges, represents the hospitalwide breadth of the problem, and points to a need for standard work: limited discharge resources. Due to the complexity of the discharge process, the task of executing a discharge order had been specialized to a few nurses. In a 7 am to 7 pm shift, typically only three "discharge nurse" positions were on staff. This group handled more than 90 percent of discharges, which meant that their availability was a bottleneck.

Discharge Process Current State



Source: Memorial Health System

At the time the current-state map was drawn, 109 minutes of the total nurse discharge process time (169 minutes) was non-value adding time.

Based on their mapping and initial findings, the improvement team established discharge-related goals. Unlike previous initiatives that tried to independently take on the discharge problem, these goals were adopted as administrative and organizational goals and shared by many:

- 50 percent of patients leave the hospital after the discharge order is written in 2 hours or less — by Dec. 15, 2014.
- 60 percent of discharge orders are written by noon with no increase in patient’s length of stay — by Dec. 15, 2014.
- 96 minutes or less from the time of a patient admission order in ED to “bed clean” status (i.e., bed ready to receive a patient).

“We’ve got a much more vested group of people who all share pieces of the same goals, and that’s big,” says Gehlauf. “I think that was a huge accomplishment for this project.” For example, 17 people at Memorial share the goal for discharges in 2 hours or less, and 21 people share the 96-minute admission-order-to-bed goal.


The improvement team then developed a set of countermeasures to address the discharge problem and pursue their goals:

- Work to increase the percentage of discharge orders written by noon with no increase in patient length of stay
- Evaluate the use of contingency discharges (e.g., requirements for labs, consulting, imaging)
- Examine timing and approach of interdisciplinary rounds, including the communication from rounds
- Develop a method to prioritize discharges
- Expand discharge resources
- Increase the available capacity for discharge transportation

Each countermeasure was assigned to an individual and subteams. For example, Dr. Chris Cockerman, hospitalist, headed up the countermeasures for the timing of discharge orders and use of contingency discharges. Paige Smith, director of nursing, headed up the effort to examine limited discharge resources.

Smith’s group developed a flowchart and value-stream map of the discharge nurse role, recorded their observations and analysis in an A3, and have been developing and will implement job breakdown sheets. The sheets detail all the individual steps involved with a discharge nurse’s role so that it can be confidently and efficiently shared by many nurses. More than one dozen job breakdown sheets were created that include process name (e.g., “Make self familiar with patient”), the major steps necessary to complete that piece of the process, key points to consider, and the reason why the step is necessary and important (see *Job Breakdown Sheet*).

Job Breakdown Sheet

 <p>MARIETTA MEMORIAL HOSPITAL Memorial Health System</p>				
Job Breakdown Sheet				
Process name: <i>Make self familiar with patient</i>	Safety equipment:	Tools & Materials required:		
Major Steps	Key Points	Reasons		
Check to see if all consults were done	If not, contact the nurse to check status.	If not complete cannot be discharged		
Determine if follow up appointments are needed	Some offices turn phones off during lunch hours.	If appointments are needed they must be made by discharge nurse and recorded for patient.		
Review the patient's history.	Does patient have history of stroke and is patient taking Warfarin? Does patient walk, use assistance or are they bed fast? What is their diet? What is their activity level? Do they have any wounds?	This information is required later in the discharge. You may find the information either by chart, personally, or speak with nurse.		
Review the patient's diagnosis for admission		This information is required later in the discharge.		
Check in to determine if patient has a ride home	Patient may need to make arrangements to have someone pick them up.	This could delay discharge.		
Also check to see if the patient has an IV or catheter that needs removed prior to discharge	This could be done by nurse caring for the patient or the discharge nurse.	This could delay discharge.		

Source: Memorial Health System

Results, Challenges, and Next Steps

As the Memorial Health System improvement team began to work on their countermeasures and expand into areas of the hospital beyond the symptom (patients waiting in ED), they encountered new information, new challenges, and a need for new and more data to better understand the discharge process.

“One of the lessons learned is that we’ve got to be more data-centric... We don’t know what we don’t know,” adds Gehlauf. “If we don’t have the right data points to assess where we’re at or where we’re starting, then we need to [develop that]. And on the back end, you have to be able to demonstrate that there’s been improvement. It’s a matter of testing: Is this countermeasure working?”

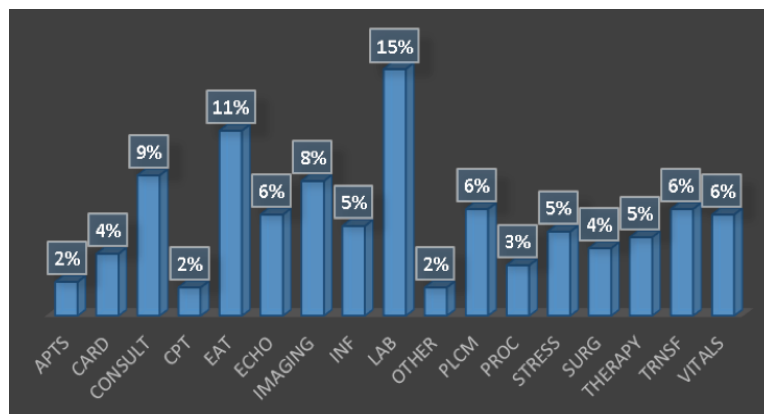
As the team and subteams implemented countermeasures, there have been various “ah ha” moments at Memorial. For example, the team collecting data from the hospital’s transport function came to understand how that group worked and their priorities for moving patients: among 12 transport categories of patients, discharge was third from the bottom of the list (i.e., getting patients out of beds so that beds can be cleaned and ready for an admission). Just as enlightening was that the transport group had good reasons for the order of patient transportation given their current requirements. Nonetheless, the improvement team found an opportunity to “try to remove some of the things from [transport’s] list that they really didn’t need to own,” says Gehlauf. “We have to take some of the non-value added work that they’re doing out — which really should be owned by somebody else — so that they have more capacity to get to those discharges more quickly, given everything that they’re participating in.”

One potentially large and impactful change that is being reviewed is changing the timing of when physicians round on patients (afternoon rather than morning) and increasing physician’s focus during their rounds on discharge planning. For example, a round in the afternoon could identify issues still pending (e.g., a need for lab work) and leave enough time for that work to be completed and the discharge to proceed the following day without delay. This contrasts with discharge orders written on the day of discharge when staff may not realize patients are going to be discharged, tests have not yet been ordered, and even patients’ families are not aware or available to take patients home. This countermeasure also relates closely to the team’s work to evaluate increased use of contingency discharges, in which a physician sets patient activities and criteria that must be met for a discharge to occur (i.e., “discharge contingent upon...”).

When the team first gathered at AEH, they believed the use of contingency discharges was *contributing to* delays. But back at Memorial the group collected data on the process and found that approximately 15 percent of discharges had a contingency. Among the many categories of contingencies that were tracked, a high percentage were with a handful of criteria: labs, consult, imaging, and patient eating (see *Contingency Discharges*). Rather than the contingency discharges being the problem, possibly it was how other functions responded to the contingency requirement.

“Our initial thinking was if you can get everything done and there is not a [contingency], it would be better,” says Gehlauf. “But as we shift our mentality to what’s going to happen tomorrow in our discussions about the patient [and indicate] they’ll go home *tomorrow* if these three things are done, then we’ve got *today* to do those three things.” The team found that many contingencies discharges, when realized the day of discharge, simply could not be accommodated within 24 hours. This led them to believe that more contingencies written in advance during rounds can streamline the discharge process. Rather than physicians *waiting* to see that services were performed before they would order a discharge, they can be *driving* those services to get completed in a timely manner by writing the contingency discharge order.

Contingency Discharges



Source: Memorial Health System

Value-stream owner Duff says, “If we start getting the physician to think about that today and write it today so that the nurse knows what they’re looking for in the next 16 hours, then we know what we have to do to discharge.”

In addition to increasing the percentage of contingency discharges, the team is working to improve reaction to the contingency requirements: e.g., setting up different prioritization flags with radiology services (bumping inpatients up the list if waiting for more than one hour); developing a mutual prioritization process with diagnostic tests; and establishing, measuring, and reporting on the turnaround times from lab, diagnostics, and consults.

The Memorial Health System team and subteams have made progress in implementing all of the countermeasures, but the results from these efforts are not yet what the organization needs to achieve. In November, the percentage of discharge orders written by noon had increased to 38.5 percent. The ED-order-to-admit goal of 96 minutes occurred with just 19 percent of patients. For the third goal — patients out the door within two hours of the discharge order — the group was still attempting to accurately capture a data point to record that measure.

“We know what time these patients leave,” says Gehlauf. “The [data] that we’re struggling to get is when the order is written.” That will require more formal education of health-unit coordinators to electronically enter the data (manual collection is too labor intensive), and has been compounded by a new patient-care facilitator model (PCF) in the hospital. McGowan adds that anecdotal progress toward the goal is seen, but “we still have yet to be able to develop a method to measure this properly.”

Many within Memorial Health System are now linked to the improvement team's objectives. And, likewise, the improvement team also is accountable to the organization: it reports out to a lean steering committee that meets on a monthly basis. Team members believe the organization can eventually hit the goals, but "we have a lot of work to do," says Gehlauf. "There's a lot of things we need. I'm pleased that we came back [from AEH], continued to meet, and continued to press forward. I don't know that things are happening as fast as we would like, but there's a huge body of work here, quite frankly."

"There's no silver bullet for this," adds McGowan. "There's a lot of little silver slivers that we have to just add up."

AEH Commentary

The discharge process improvement project at Memorial Health System illustrates the challenges of trying to change a process that runs throughout a healthcare organization across numerous departmental boundaries. It also shows, though, how even a complex process can be broken down into manageable, analyzable chunks and improvements applied when the right constituents — including physicians — are involved and take ownership of the process and subprocesses rather than being bystanders as changes try to take place around them.

As with so many problem-solving initiatives, the Memorial Health System improvement team recognized the need for good data to plan, communicate, and measure the effectiveness of their improvement project. Sometimes data will already exist and be easy to get and use; other times it requires substantial work to develop the methods by which to even capture the right information. Once in place, though, good data provides a fact-based view of processes that helps to engage individuals in changing processes and elicit buyin for change.

The discharge process improvement project at Memorial also shows that problem solving is not a completely linear process. Just as PDCA includes a "check" and "adjust," the improvement team had to reevaluate some of their ideas, such as the use of contingency discharges. They also continue to examine the effects that the timing and approach to physician rounding can have on the discharge process. Experimenting with new methods in a manner that does not negatively impact patient care will inform the improvement team's efforts as they seek to continuously improve the effectiveness of the discharge process.

About AEH

The Academy for Excellence in Healthcare blends in-person class time with hands-on project work, interactive simulations, and recurrent coaching, all aimed at helping healthcare teams spark actionable change at their organization. At the heart of this program is a real-world workplace problem each participant team selects and commits to solving through five intensive days on campus, followed several weeks later by two days of project report-outs and lean leadership training. This project-based approach pays immediate dividends and lays the groundwork for transformational change.



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Discharge Process Improvement — Contacts

- **DeeAnn Gehlauf**
Vice President, Business and Organization Development
Memorial Health System
740-374-1415
dgehlauf@mhsystem.org
- **Margaret Pennington**
Faculty Director
The Academy for Excellence in Healthcare
The Ohio State University
614-292-3081
pennington.84@osu.edu

For Program Information

- **Beth Miller**
Program Director
The Academy for Excellence in Healthcare
The Ohio State University
614-292-8575
miller.6148@osu.edu