

ACADEMY FOR EXCELLENCE IN HEALTHCARE

IMPACT ASSESSMENT PAPER

## Reduction in Hematology Length of Stay at The James

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## Reduction in Hematology Length of Stay

### *Improvements focused on discharge process to minimize unnecessary treatment delays*

Cancer patients often endure unfathomable challenges. Needlessly waiting for treatment to begin or to be discharged from the hospital should not be among them. Hematology staff at The Ohio State University Arthur G. James Cancer Hospital and Richard J. Solove Research Institute (The James) are trying to make sure that the length of stay (LOS) for inpatient chemotherapy treatments is no longer than clinically necessary, and the department began an improvement project to prevent delays in admissions and discharges.

The average LOS index for The James Hematology services was 1.12, compared to a goal of 0.95. The LOS index is the ratio of actual LOS to expected LOS, and is based on data from hospitals across the country and adjusted for things like complexity of care and patient age. Some inpatients at The James Hematology had waited as long as 6 hours to be discharged and even longer to be admitted and to receive their *scheduled* chemotherapy. More than half of admissions occurred after 5 pm, and admissions and discharges took place from early morning until late into the night. Department staff knew that improving the admission and discharge processes could decrease the length of stay for inpatient chemotherapy treatments, increase patient satisfaction, improve bed availability, decrease cost, decrease clinical variations, and improve quality outcomes and patient safety.

Maureen Marsico, Administrative Director of Patient Access, describes how the process for chemotherapy admissions *should* work: a clinical team provides the patient with a date and time for inpatient treatment, and the admissions office then arranges for the treatment by a Hematology services team. “In a perfect world, this process would occur smoothly and seamlessly. We’d arrange for a bed on a particular day. They’d arrive, a bed would be available for occupancy, the patient would then go upstairs, and they would start their chemo in a timely manner.”

#### **The Arthur G. James Cancer Hospital and Richard J. Solove Research Institute**

- Adult patient-care component of The Ohio State University Comprehensive Cancer Center.
- Designated by the National Cancer Institute (NCI) as a comprehensive cancer center.
- New \$750-million, 21-story hospital opened in December 2014:
  - 1.1 million square feet
  - 306 beds
  - 36-bed blood and marrow transplantation unit
  - 14 operating rooms.
  - 6 interventional radiology suites
  - 7 linear accelerators for radiation therapy

Amanda Hrnicek, Senior Quality Manager for the Blood and Marrow Transplant Program, says scheduling typically has occurred based on medical necessity and patient availability, without review of potential bed availability. Because of the specialty of treatment and finite capacity, beds are often unavailable for the scheduled treatment times, patients wait in admissions, and they get to their rooms late

in the day. Some treatments may begin that first evening, but because the full complement of clinical staff are unlikely to be available at that time of day, other treatments will not begin until the following day — the three- to five-day treatment period is already one day behind schedule after just the first day.

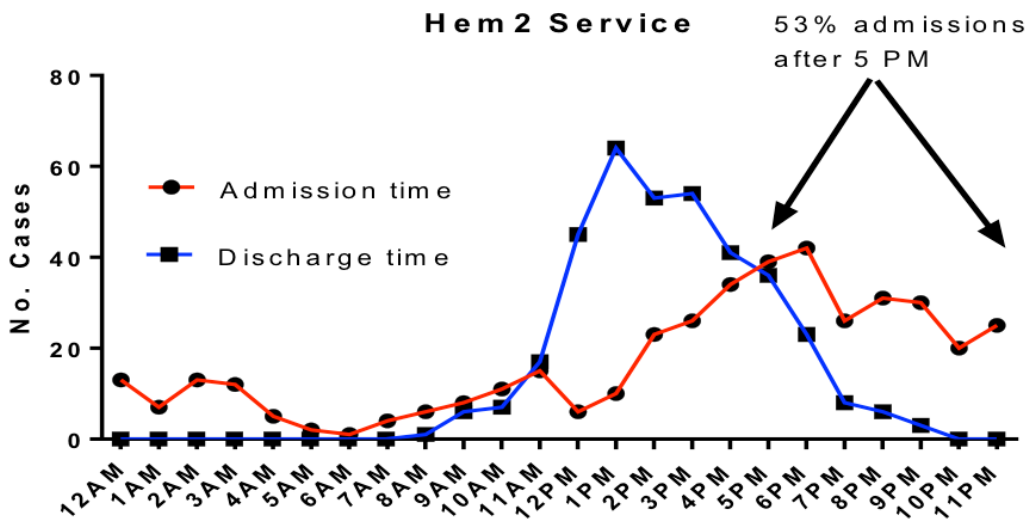
“We realized that we needed to find a method that would allow patients to get in and actually start the first day as intended,” says Marsico (see *Hematology Problem Statement*).

Presentation of the LOS index by the hospital’s Utilization Management Committee confirmed that Hematology services was an outlier compared to average cancer programs across the country, and the disparity spurred the improvement effort. When discussing how to address the LOS problem during regularly scheduled quality meetings, the group decided to pursue a scholarship for an improvement project with the Academy for Excellence in Healthcare (AEH) at The Ohio State University. The James’ executive director approved the plan, a multidisciplinary improvement team was formed, and the LOS project was accepted by AEH. In August 2014, the improvement team was trained on lean tools and techniques, such as workflow analysis and root-cause problem solving, and the team began to analyze and address their problem with the help of AEH faculty.

**The James Hematology Improvement Team**

- Amanda Hrnicek  
Senior Quality Manager for Blood and Marrow Transplant Program
- Jan Sirilla  
Service Line Administrator for BMT, Hematology, and Medical Oncology
- Rebecca Klisovic  
Hematology Physician
- Dareth Gilmore  
Nurse Practitioner
- Maureen Marsico  
Administrative Director of Patient Access

**Hematology Services Problem Statement**



Source: The James Cancer Hospital, Hematology

## Working the Problem with AEH

While improving inpatient LOS was the impetus and overall objective for the project, Hrnicek says the improvement team soon realized that the scope of their project needed refined in order to make a meaningful impact. That led the team to focus on the “patient discharge process, knowing that if we can get patients out of the hospital earlier in the day, then we are going to be able to admit individuals quicker, which will ultimately allow them to leave earlier.

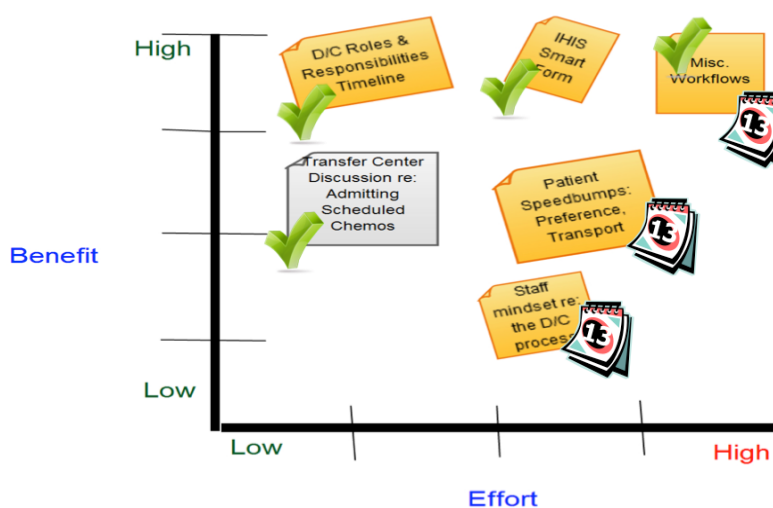
“It was great to just have the entire multidisciplinary team together, learning together, and focused on these tools at the same time,” adds Hrnicek. “It really just got us all on the same page.” For clinical staff on the team, lean concepts provided new ways to look at their world and work; for the department’s quality staff, AEH provided a good refresher on the lean tools.

Jan Sirilla, Service Line Administrator for BMT, Hematology, and Medical Oncology, says everyone knew there was a problem with the extended LOS — and everyone had different ideas about what was causing the problem. Going through the AEH program helped the team analyze the preadmission-to-discharge process step-by-step as *a group*, evaluate what they could realistically take on, and build consensus for how to address the problem.

At the start of the AEH training, Hrnicek established weekly meetings to get team-member calendars aligned and their commitments for working on the project. Upon return from AEH, the team began to “get out there and really see where the work is done and what’s happening. We did some observations and analysis of information to determine the true problems.”

The improvement team also formed a larger multidisciplinary workgroup and communicated their observations, recommendations (see *Discharge Improvement Recommendations*), and objectives to those individuals. Team goals are to have 75 percent of chemotherapy inpatients discharged by 1 pm, and 50 percent of scheduled chemotherapy inpatients admitted by 3 pm (deadline for both goals is March 31, 2015). “We had the multidisciplinary workgroup tell us what they felt the problems were and what

### Discharge Improvement Recommendations



Source: The James Cancer Hospital, Hematology

needed to happen, so that they had some ownership and empowerment in the process,” says Hrnicek. “They essentially validated our findings. What they said was really no different than the things that we had talked about, which was nice to see.”

From their observations of the discharge and admissions process and analysis of findings, the team narrowed their focus to three major areas of improvement. They also put in place an implementation plan that identified actions, tasks, persons responsible, completion dates (target and actual), and results (anticipated and actual) to address those areas:

- *Discharge process:* The team segregated the chemotherapy process into major chunks — preadmissions, admissions, start of chemotherapy, discharge criteria, and discharge. They also created a “current-state swim lane map” that showed discharge roles and responsibilities of those involved in the end-to-end process (physician, nurse practitioner, PCRM, social worker, pharmacist, and nurse). The map detailed the various flows of communication and documentation among these groups and possible areas for improvement. “We published that out to everybody after we got consensus to say, ‘This is who needs to be doing what and when,’” says Hrnicek.
- *Multidisciplinary communication:* Rebecca Klisovic, hematology physician, led an effort to establish a communication forum within the hospital’s electronic medical records. This is an ongoing effort that allows the team to see what is occurring for a patient’s discharge process. Dr. Klisovic also managed the team’s use of visual communications to update team members and the department.
- *Miscellaneous root causes:* The team’s exploration of the problem surfaced other root causes not connected to the first two groups, such as delays for transfusions/infusions and transportation issues. They validated their observations of these causes, and discussed possible actions that could be taken.

“We do a weekly report out of the data so that everyone on the team can see where we are toward making progress toward our goal,” says Hrnicek. “The percentage of patients that have been discharged before 1 pm as well as the percentage of patients that are admitted before 3 pm is shared each week. And then we look individually, patient-by-patient, to see if somebody was not discharged by 1 pm and the reason.” The analysis is focused on the discharge delay, a condition that ultimately leads to a late admission for another patient. Dareth Gilmore, nurse practitioner, manages a team of 25 nurse practitioners, and she requests data from each patient’s discharging nurse practitioner, who is able to precisely report the reason for a discharge delay. The root causes for those delays are tabulated so that the team can focus their continuing efforts on the most common causes.

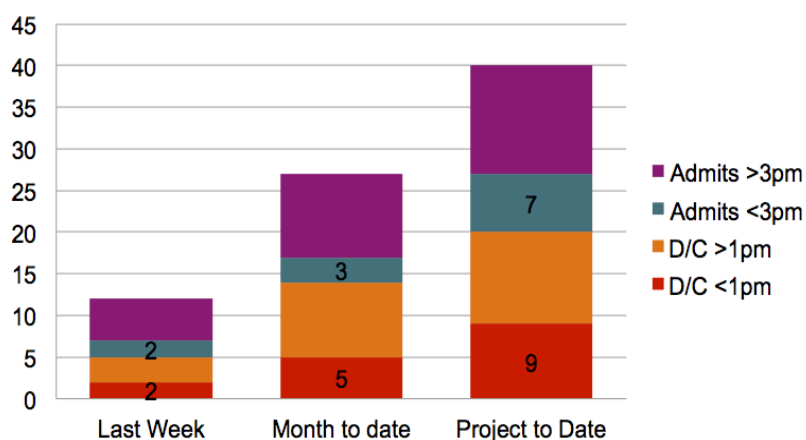
Hrnicek points out that the training and report-back period for the AEH program (August to October) forced the team to “put the pedal to the metal and get some things done. Otherwise, we are focused on a hospital move and other things, and we definitely would not have had that kind of focus, and we would not have seen the kind of results we’ve seen.”

## Results, Challenges, and Next Steps

By October, The James Hematology department had begun trialing use of a standardized discharge worksheet, which is used to record information such as goals for the patient, the need for referrals, labs/transfusion requirements, and outpatient orders. The improvement team also had implemented the visual management of admission and discharge project status, which tracks admissions (the number occurring before and after 3 pm) and discharges (the number occurring before and after 1 pm) for the previous week, month to date, and project to date (see *Followup Visual Management — Admission and Discharge Project Status*).

Hematology operates with four services or “care teams,” in order to establish continuity of care, provide subspecialty disease-based care, and so that the teams of physicians, nurse practitioners, and nurses have an appropriate ratio of patients to which they provide care. The improvement team monitored and analyzed the work of two of the four care teams, which account for approximately 50 percent of chemotherapy inpatients.

**Followup Visual Management — Admission and Discharge Project Status**



Source: The James Cancer Hospital, Hematology

Since the project began, one of the two care teams had approximately twice the number of discharges as the other (56 vs. 26), and that group also had made the most progress toward project goals: an upward trend of 51.8 percent of discharges by 1 pm and 57.7 percent of admissions by 3 pm vs. 12.5 percent of discharges by 1 pm and 0 percent of admissions by 3 pm. The care team that had made the most progress has a higher percentage of scheduled chemotherapy admissions compared to the other care team, which has more unplanned inpatient admissions. Hrnicek says the team is focusing on factors that may be contributing to the one service unit not making progress. “I know that a lot of times those patients on that particular service [team] are there for a very extended length of time as compared to some of the other groups. So we need to figure out what’s causing the patients to not be discharged before 1 pm, because it’s not happening like we’d like to see it.”

Hrnicek and the improvement team are pleased with the progress of the one care team with predominantly prescheduled chemotherapy admissions, and she says they will “glean from this group what is it that they’re doing to make this consistently happen, and then what do we need to do to integrate those practices into the other services so that it’s consistent.” They recognize that there will be some nuances



with various services provided, but they would nonetheless like to see all care teams working toward discharges by 1 pm. Based on learnings from both groups, the team will share best practices and consistent processes for all four care teams. Sirilla adds that as a long-term goal, after Hematology is achieving and sustaining its targets, she would like to see the improvements rolled out to medical oncology as well.

Challenges in reaching the current goals and expanding the approach in the hospital include the clinical and multidisciplinary variations that occur within the processes, as highlighted by the initial results. “We have so many pieces and parts and different disciplines completing different components, and also different physicians coming on and off service all the time,” notes Hrnicek. “With that constant change and with the different people we need to get onboard, it can be difficult to get everyone to march to the same beat and be on the same page with the goals.”

One factor that should help the team’s improvement effort is the move to the new hospital. For example, blood and marrow transplantation beds increased from 24 to 36. Expanded capacity, though, may also increase patient demand for Hematology services and increase admissions, thus furthering the need for process improvements. With the move to the new hospital, Marsico’s Patient Access department will handle admissions. This process change, she says, should help coordinate supply and demand, improve workflows, enhance accountability, and foster relationships that will allow the department to manage and hold beds more readily.

Sirilla says that the team has been able to get agreement from the hospital to hold two open beds on Sunday and one on Monday for direct admissions for chemotherapy inpatients. The process is going well when used, but it’s not been used consistently. “Our hope is that we would expand that out and be allowed to do that on more days.” She adds that the new design of the hospital and location of services also should enhance the admission process and the ability of staff to care for patients.

Gilmore says that service-unit staff are placed in greater proximity to patients, and patients are placed on floors most appropriate for their care needs. “Sometimes the patients went to a surgical or a non-HEM floor where you’re dealing with nursing staff that aren’t as versed on the chemotherapy that the patients are getting,” she says. “So it’s another barrier to getting things [started on time]. Having them in the right area will be good.”

## **AEH Commentary**

The Hematology LOS improvement project at The James Cancer Hospital reveals how a problem may need broken down into more manageable pieces in order to reveal the primary root cause(s) of the problem. This was the case when the Hematology improvement team recognized that hematology discharges were a significant contributor to delayed admissions for chemotherapy inpatients and, thus, extended lengths of stay for inpatients. While issues with the admissions process also contributed to the Hematology problem, many of the team’s recommendations centered on activities that addressed the discharge side of the problem.

Like most improvement work undertaken with training and coaching at AEH, the Hematology project benefitted by group participation: a multidisciplinary team analyzed and worked to solve a problem while actually together for an extended period, forcing them to consider perspectives from various roles and collectively learning about lean tools and how to apply them. The pacing of the AEH training process, from initial training to report-outs on initial results, also created a sense of urgency for getting results. This helped to keep team members engaged in the project, even amid a transition to a new hospital.

The improvement project also illustrates a best practice when making changes to complex processes: implement countermeasures through similar groups, which helps to highlight process variations and factors that can affect outcomes between the groups. Analysis of the two Hematology service teams and the variations will help the improvement team avoid a one-size-fits-all solution, adjust improvements to accommodate variations, and share best practices and standards across groups.

## 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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