

HOSPITAL CHARACTERISTICS

ADVOCATE GOOD
SHEPHERD HOSPITAL

- ▶ Barrington, IL
- ▶ 186 staffed beds
- ▶ www.advocatehealth.com/gshp/

S.T.E.E.E.P.



SAFE

Timely lab results prevent delays in patient treatment and discharges.



EFFICIENT

The streamlined process helps clinical staff make prompt treatment decisions, which improves patient care and eliminates barriers to timely discharges.



TIMELY

Lab specimens are processed more quickly, which improves decision making for clinical staff.

IMPROVING LAB TURNAROUND TIMES

The Problem

In a 2008 medical staff satisfaction survey, 93 percent of Advocate Good Shepherd physicians indicated overall satisfaction with the hospital. However, the satisfaction rate for hospital laboratory turnaround times was between 50 percent and 60 percent. In addition, a

discharge-time project identified morning lab results as a critical component for timely discharges: Only 36 percent of non-ICU morning lab results were available by 7:00 a.m., and this led to delays in treatment and discharge of patients.

The Solution

The hospital conducted a value stream analysis (VSA) of the laboratory and developed a road map of improvement events, such as rapid improvements, just-do-its, workouts, and projects. Frontline staff, both lab and non-lab, were involved in the VSA and rapid improvement events. In addition, key lab leadership and lean facilitators visited a best-practices lab to get ideas for making improvements. With this information, Advocate Good Shepherd streamlined its laboratory workflow and redesigned the physical layout of the laboratory.

Results

The turnaround time for seven automated tests—which represent 50 percent of the laboratory's workload—was measured:

- » 96 percent of ICU lab results are now available by 7:00 a.m., an improvement of 20 percent.
- » 80 percent of non-ICU lab results are available before 7:00 a.m., an improvement of 96 percent.
- » ED received-to-result time has decreased from 27 to 21 minutes, a 22 percent improvement.

- » Collect-to-result time for routine and STAT tests decreased from 48 to 34 minutes, a 28 percent improvement.

Background

In January 2008 Mary Jo DeBates, laboratory manager and process owner, and UJ Puranik, a hospital technical supervisor, visited a best-practices lab at another hospital. "We realized that there were other ways to do things and we asked ourselves, 'How can we implement some of what they have in place?'" says DeBates.

The VSA was conducted in August 2008 by a team that included the lab manager, lab technical and support services supervisors, pathologist, human resources representative, two phlebotomists, medical technician, hospital vice president, director of quality, facilitator and outside consultant. The team looked at every step of the laboratory process—beginning with physicians writing orders and ending with them receiving results. The team also served as a communication link to the lab staff and brought back their feedback.

Changes to the lab process were incremental, says Don Calcagno, vice president, professional services and operations, and VP sponsor of the project. The VSA highlighted parts of the process that needed to be streamlined or redesigned. For example, phlebotomists conducted their morning

TEAM MEMBERS

Mike Brown

Business Operation Analyst

Don Calcagno

Vice President, Professional Services and Operations, and VP sponsor

Mary Jo DeBates

Laboratory Manager and Process Owner

Charlotte Dioguardi

Operations Improvement Consultant

Wendy O'Brien

Support Services Supervisor

UJ Puranik

Technical Supervisor

rounds, returned to the lab and then traveled back to the floor. These frequent back-and-forth trips between the lab and floor wasted time. Now phlebotomists are stationed on the floor. They use a large cart for their supplies, have access to the lab computer system and can print labels on the units. Orders are collected in a more timely manner, and specimens are sent immediately to the lab for processing.

The morning draw was the lab's busiest time and, before the process redesign, there was frequently a backlog of specimens waiting to be processed. The tube station also lacked the capacity for handling a large volume of specimens. An additional tube station was installed, and the second lab receiver was moved to an earlier start time. These changes resulted in a smooth, continuous flow of specimens into the lab.

In June 2009 the project's last element was completed—a redesign of the laboratory. Rearranging the lab's physical layout streamlined the workflow, eliminated unnecessary steps and improved overall efficiency in processing tests.

Principles of Performance Excellence

Remove Waste

Initially, lab receivers were positioned 6 to 10 feet from the tube system, and they made many trips between the receiving desk and the tube station. They also transported specimens to the technical area of the lab, which was 30 feet away. A new layout was suggested. Life-size cardboard cutouts of equipment and instruments were set up in an area outside the hospital. Staff walked among the cardboard instruments to test the efficiency

and effectiveness of the arrangements and develop diagrams. According to Courtney Hill, medical technologist, all staff members were encouraged to follow the path of a specimen through the area and then submit comments and suggestions for improvement.

Based on this experiment, the team redesigned the specimen receiving process and rearranged the placement of automated instruments for hematology, coagulation and chemistry—removing waste and improving efficiency. The lab receiver is now positioned next to the tube station and centrifuges. The receiver removes specimens from the pneumatic tube system and confirms the orders in the lab computer, then puts the appropriate specimens into centrifuges for a three-minute spin. The technical staff empty the centrifuges and transport all specimens to the appropriate area. The automated instrumentation is now configured as a horseshoe shape around the lab specimen receiver, making it easy to quickly run the automated specimens.

Another change was equipping staff members and phlebotomists with text pagers. If a hospital unit needs a STAT blood draw, a text message is sent to the appropriate phlebotomist. Previously such a request was handled with a phone call to the phlebotomist, who might have been drawing another patient. With text messaging, if the phlebotomist is with a patient and cannot answer, the pager vibrates, which does not disturb the patient being drawn. The phlebotomist can check the text message later to access accurate information for the next draw. As a result, the patient environment is quieter, patients are drawn more quickly, and specimens move to the

lab more quickly. Nor-el Maragay, phlebotomist, likes using text paging. “I quickly receive the information I need about the STAT draw,” he says.

Create a High-Reliability Culture

Focusing on the laboratory resulted in a huge breakthrough, according to Calcagno. “Rearrangement of the lab layout accelerated improvement,” he says. “[The lab staff] own this change and continue to drive it,” he adds. DeBates emphasizes that making significant changes in the lab process was difficult and involving the lab staff was key. “The lab staff feels more a part of the hospital than they previously did. They understand how their work has a positive and direct impact on our patients,” she says. “Senior executive leaders and the Advocate Performance Enhancement members at Good Shepherd were very supportive,” observes DeBates. The hospital administration hosted a thank-you celebration for the lab staff as goals were

achieved. “The administration has been very happy with our results,” says DeBates. “We have shared the results with other Advocate hospitals.”

With so many changes in the lab, at first lab technicians were not pleased and predicted “it cannot be done.” According to Sherry Bartelt, a Good Shepherd phlebotomist who was part of the VSA team, “We frowned about [the changes] at first, but they are making a big difference.... We turned everything upside down and got great results.” DeBates says, “We did a lot of talking and continually reviewed the new work processes with the staff.”

The lab staff now supports the changes, says Bartelt. “We realized [the change] is getting patient tests resulted faster,” she says. “The bottom line is that the patients come first.” Puranik observes, “You must have team representation and the voice of the customer to make [change] work.” The lab frequently posts current turnaround

times so staff can see the impact of their efforts.

Good Shepherd continues to work on improving turnaround times for the emergency room. Two of the hospital’s medical lab technologists, Joyce Hurley and Courtney Hill, have suggested changes for the ER process. “We want people to continually look for ways to improve our work processes,” says DeBates. She added, “As we reach our goals, we celebrate and acknowledge their—not management’s—success.”

Continual Improvement

Physicians, pathologists, and lab technicians all are happy with the process changes, says Charlotte Dioguardi, performance enhancement department. Advocate Good Shepherd expects to make process improvement a continual journey for the lab.