

It's all about the culture

Lean transformation means improved patient care, employee satisfaction and reduced costs as MSHA incorporates it in its organizational culture.

[Mountain States Health Alliance](#), formed in 1998, is a large health care system in northwest Tennessee, Virginia, Kentucky and North Carolina. The network includes 10,000 team members and associated physicians across 13 hospitals, 21 primary care centers and numerous outpatient care sites.

With health care reform on the horizon, in 2009, MSHA executives expanded their three-year strategic plan to a 10-year plan to develop strategies to offset some of the impending costs and budget cuts of the Accountable Care Act. As part of the plan, advisors suggested Lean management as a solution.

MSHA used Lean tools in the past to help cut costs, but it was used more for problem solving. MSHA knew in order to be successful it had to take a holistic approach to implement a Lean culture across the entire organization. Andrew Wampler, assistant vice president and Candice Jennings, senior vice president, Tennessee Operations, were charged with learning from other hospitals who have implemented a Lean culture. After six months of observing other hospitals that integrated Lean culture (such as Virginia Mason Medical Center, Seattle and ThedaCare, Appleton, Wis.), MSHA executive's perceptions on Lean management had changed.

"When we first began looking into Lean, we saw it as a cost cutting tool," says Wampler. "After visiting the hospital sites and seeing Lean in action, we quickly learned it is much more than cost cutting and flowcharts—it is a cultural transformation across the entire health care organization that enables workers on the front lines to develop strategies to streamline processes and decrease waste. As a result, the hospitals we visited not only improved the bottom line; they made impactful changes that improve the quality of care."

Where to start

In October 2011, MSHA enlisted [Simpler Consulting](#) to coach hospital executives, clinicians and staff on the application of Lean management. Simpler and MSHA identified the following goals as they began the transformation:

- Improve patient quality and satisfaction
- Increase employee satisfaction and reduce turnover
- Increase dollars to the bottom line

With goals in place, the Lean transformation began at four different sites: Johnson City (Tenn.) Medical Center and Johnston Memorial Hospital, Abingdon, Va., Norton (Va.) Community Hospital and Mountain States Medical Group, located in various locations through eastern Tennessee and southwest Virginia. MSHA branded the Lean transformation initiative as its value optimization system (VOS).

"VOS uses Lean methods to eliminate waste in our processes and make them more efficient. The ultimate goal is to provide better patient care, but along the way it can also save us money and make our jobs easier," said Wampler. "VOS is way of thinking and problem-solving that is part of the MSHA culture."

Within these facilities, the hospital executives identified value streams, which look at each step a patient takes within an organization or department to deliver a specific service. Two value streams that have experienced considerable results are the emergency departments at JCMC and JMH. As a front door to the hospital systems, it is important to eliminate waste and improve processes to allow patients better and faster access to quality care.

Johnson City Medical Center—Improving efficiency and access to medical supplies

The Problem

One of the first value stream events at JCMC focused on improving the medical supplies in emergency services. With no organizational system in place, medical supplies were scattered across the department. There was no way of knowing how much of each supply was available, or where they were stored. In fact, five different

medical supply closets were located in various areas of the emergency department (some placed outside of the department) forcing nurses to spend extra time locating materials and less time with patients.

The Solution

The value stream improvement team conducted a series of rapid improvement events to streamline and standardize supplies. In one of these events, the Simpler sensei (a Lean management coach) gathered members of the emergency department, administration and other staff in an intensive forum to brainstorm new ideas.

The team developed a three-fold solution. To standardize medical supplies across the entire emergency department, they:

- Identified and transformed an unused conference room in the middle of the department into a new, medical supply closet;
- Worked with the materials management department to ensure that the medical supplies would be restocked regularly; and
- Standardized the specific location and quantity of all supplies within each patient room.

The Results

JCMC significantly reduced costs by saving on inventory and reducing supply expenses. Highlights include:

- Moving all supplies to a central closet saved staff time, increased the productivity and streamlined workflow. Care providers had more time, enabling them to see more patients. In one year, the admit patient hold time decreased by 50.15 percent.
- Regularly restocking medical supplies meant that the emergency department wouldn't have to carry as much inventory. This reduced inventory costs by about \$89,000 per year.
- By standardizing the location and quantity of all materials within an individual room, the staff spent less time searching for medical supplies. The cabinet space was no longer cluttered, and the hospital reduced supply expenses by 10 percent, saving about \$150,000 per year.

“From a team member standpoint, less time and fewer steps are being wasted when we perform our daily work,” said Travis Simmons, emergency services manager, Johnson City Medical Center. “The supply room is much more organized and elements of the regular processes that didn't make sense or were frustrating have been streamlined or removed.”

With the success of this first improvement, the team at JCMC was eager to implement more rapid improvement events to streamline and improve processes such as triage and discharge. As a result:

- Patient satisfaction scores rose from 80.8 percent to 83 percent;
- More patients are being admitted to emergency department, from 101 to 108 per day;
- Left-without-being-seen rates have decreased from 9 percent to 1.96 percent;
- Patients who need EKGs in the emergency department are getting them faster (96 percent of patients now receive an EKG in less than 10 minutes, a 13 percent improvement); and
- Patients aren't waiting as long to be treated and either discharged or admitted to the hospital.

[To learn more about Lean and Simpler, please visit their website.](#)

Johnston Memorial Hospital—Improving emergency room wait times

The Problem

Patients admitted for overnight stay in the emergency department at JMH waited more than three hours for a bed. To improve patient satisfaction and reduce wait times, JMH needed to find a solution.

The Solution

Through a series of rapid improvement events, the sensei worked with JMH staff on ways the emergency department and the inpatient services department could work together to improve communication. The new plan mandated that as soon as the emergency department makes the decision to admit a patient, the nurses and staff in the inpatient services department are notified. The nurses and staff in the inpatient services department then begin preparing for the incoming patient by gathering the adequate medication supply, beds and staff.

The Results

- The communications plan allowed for more admitted patients to be placed in beds on the inpatient services floor.
- More space was available in the emergency department, raising the average daily volume from 109 patients to 120 patients over a one-year period.
- The decision time for admitting the patient to inpatient services was reduced by 43 percent, decreasing the average wait time from 133 minutes to 73 minutes.
- The patient wait time to see a physician after walking in the door decreased 17.24 percent.
- The time from the patient care was complete to the patient discharge was cut by 60.87 percent, from 46 minutes to 18 minutes.
- Patient satisfaction improved to 83 percent.

MSHA spreads Lean

MSHA currently has 20 active value streams, working with outpatient services, emergency departments, inpatient services, surgical services, physician clinics and revenue cycle. Overall, the network has saved nearly \$5 million, with a potential return on investment from its first 16 active value streams of \$56.7 million.

MSHA has implemented its value optimization system in other areas of its network, for example:

- Norton Healthcare increased its lab volume by 3.57 percent, and decreased its labor costs per unit by 20.38 percent.
- The finance team at MSHA is improving its revenue cycle, which consists of scheduling, coding, billing and collections services. As a result, the number of days from discharge to bill date decreased by more than 27 percent. Patient satisfaction has also improved by nearly 10 percent.

Exploring the possibilities of Lean even further, MSHA is in the early stages of developing a collaborative care model. In addition, as part of its initiative to become an accountable care organization, MSHA plans to apply principles to designing and improving a care model for patients with hip or knee surgery, congestive heart failure and coronary artery bypass graft patients.

“It’s all about adding more value for our patients,” Wampler says. “The overall benefits have been good and buy-in and cultural change has been even better than what we expected for the first year. We know so much more now than a year ago, but we also realize there’s so much more we have to learn.”