

The Lean Transformation

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Background

- 627 bed hospital
- 1.5 billion in annual revenues
- Medical Staff of 624
- 4,000 employees
- Acute-care teaching hospital in the Texas Medical Center and the primary adult teaching hospital for Baylor College of Medicine



Client Challenge

When Dr. David Pate became the CEO of St. Luke's Episcopal Hospital in Houston at the beginning of 2006, he set out three overarching priorities that he wanted to achieve on his watch—excellence, efficiency, and employee engagement. He believed that if his organization could master these “Three Es,” it could meet and beat the major challenges that it was facing.

“Excellence,” the St. Luke's CEO said, “is something we need to strive for. Excellence means that we do everything right for the right patient at the right time, while avoiding every possible mishap. Efficiency is critical for several reasons. One of them is that there are many times when we are hitting capacity constraints. But building new facilities is an expensive remedy. We need to do everything we can do to address efficiency. I think employee engagement is going to determine our patient satisfaction scores. It's going to affect our efficiency and productivity, because if our people aren't engaged, we won't do a good job taking care of our patients and their families.”

Dr. Pate had known about Lean manufacturing systems for only a short time, but understood that they could provide some of the solutions to achieving his Three Es. But he wasn't interested in a piecemeal approach. The CEO wanted a total, hospital-wide “operating system” based on Lean—both ongoing and self-propagating.

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-Marybeth Russell
Director of Surgical
Support and Operations

Lean from Top to Bottom

St. Luke’s Episcopal Hospital is part of the St. Luke’s Episcopal Health System. It’s an acute-care teaching hospital in the Texas Medical Center and the primary adult teaching hospital for Baylor College of Medicine. It has 627 beds in service, a medical staff of 624, and nearly four thousand employees. The hospital is also home to The Texas Heart[®] Institute, founded by the celebrated heart surgeon Dr. Denton A. Cooley.

After being introduced to RWD Technologies—long-time experts in Lean methodologies—Dr. Pate perceived an opportunity to move forward toward achieving his Three Es. RWD worked with him and his team to develop a strategic plan that will ultimately immerse St. Luke’s in Lean from top to bottom. But both parties understood that it would have to go forward in an incremental way, because of financial constraints. While seed money is being used to partially underwrite the Lean campaign, St. Luke’s and RWD determined that much of the funding for ongoing projects would come from the savings realized by the preceding Lean projects.

As part of their preparation for the St. Luke’s Lean campaign, Dr. Pate and several other members of his Lean team visited the Toyota manufacturing facility in Georgetown, Kentucky. Their up-close look at the Toyota production system and that of one of the car company’s suppliers confirmed for them that Toyota’s Lean system had strong application for American hospitals in general and certainly for St. Luke’s in particular. At the time of the visits, Dr. Pate commented that the visit provided a glimpse of what could be possible if the Lean method was used throughout St. Luke’s.

“The visit actually renewed my commitment to Lean and made me more determined that we are going pursue this to the point of getting it throughout our entire organization,” he said.

A Process, Not a Project

After a master schedule was agreed on, St. Luke’s and RWD set to work with the understanding that this wasn’t a mere project—with beginning, middle, and end—but an ongoing process: A new way of organizational life.

One of the St. Luke’s areas that was addressed early in its Lean campaign—and one of the keys to successful self-funding—was the Central Sterile Process Department (CSPD). This operation delivers supplies and instruments to the hospital’s 48 ORs and takes returns of unused items, handling \$4.2 million in inventory annually. The St. Luke’s team and RWD personnel sought to identify numerous “current

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state” areas of inefficiency that were ripe with potential for savings. For example, filling an order in the main supply room took an average of ten minutes. A target of six minutes for the “future state” was arrived at. In “assembly”—the process after sterilization of OR equipment—the current state had a cycle time of 16 minutes. The CSPD Lean group set a future state of 12 minutes. Classic Lean tools made famous by Toyota were brought to bear on these and other inefficiencies—tools such as 5S, standardization work, spaghetti diagrams, and visual management.

At this writing, the effort is on plan to save CSPD \$1.3 million per year—confirming Dr. Pate’s faith in the Toyota principles and providing funding for ongoing Lean projects at St. Luke’s.

While some departments focused on creating new efficiencies, the Blood Bank was primarily concerned with applying Lean principles to patient safety. It turned out that the accepted perception that the blood-handling process was quite tightly controlled wasn’t entirely correct.

“It was a valuable experience,” said Assistant Vice-President Mark LaRocco, “just going through the value stream mappings, seeing where all the points were that weren’t well controlled that needed to be tightened up. It was certainly an eye-opener that the simple transport of a cooler of blood from the laboratory to the bedside was fraught with peril if it was not handled properly. That’s really what we worked on.

“Having a standardized workflow... Having individuals realize there is a proper way to take possession of a cooler of blood... Having a place to put that cooler of blood when they get to their destination... Doing it the same way every time... That all gave us the built-in safety factor that we were looking for.”

In the Pharmacy, the big surprise was the excessive stock of some of the inventory items kept on hand—particularly one high-cost product. The quantity and dollar value literally shocked the Pharmacy manager. It was also edifying to learn that many items were stocked in multiple locations, making it difficult to manage them. Consolidating the locations will help that situation.

Not Just Consultants, but “Result”ants

Dr. Pate and his team meet regularly with the RWD team to review progress. The CEO’s personal involvement and passion for the project is relatively untypical of top executives, but very welcome in terms of driving it forward. In fact, Dr. Pate tries to attend every report meeting with his team and RWD’s.

“At that meeting,” said Mike Brown, Manager of RWD’s Healthcare

Other departments at St. Luke’s that are currently undergoing Lean improvement include:

- Day Surgery
- Core Measures
- Operating Rooms
- Pre-Admissions Testing
- CVOP

That’s just the beginning of the beginning at St. Luke’s. Many more departments are in line for the Lean treatment.

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Lean Group, “we utilize the master schedule philosophy, which outlines the major key areas of implementation—what methodology you are going to apply as a result of issues, and what metrics we can hope to affect. So, using that master schedule, within minutes the executives have an understanding of the overall project and how they need to adjust timing, resources or efforts to ensure a successful outcome.”

Like most everyone on St. Luke’s Lean teams, MaryBeth Russell, Director of Surgical Support and Operations, has found working with RWD to be unusual. Normal consultants come in as “experts,” she noted, leave their reports and proposed solutions, then disappear.

The RWD people came into her area not knowing very much about how things work in the hospital environment, she said. “But they ask a lot of questions and they listen. They strategically look at efficiencies and then work with you. They roll up their sleeves. The results we’ve seen have been from knocking elbows and working side by side with them.”

“It’s been awesome,” said Dr. Pate, “because I’m not interested in just another consulting engagement. I want somebody who really wants to partner with us and who’s got something to prove, who’s willing to create something new and innovative here, where we both benefit.

“RWD wasn’t very familiar with healthcare when they came in. And to me that was a good thing. Because so many of us in the hospital industry are used to doing things just because that’s the way it’s always been done. I needed people with fresh eyes and a different perspective to come in and tell me what we were doing that didn’t make sense. I needed people to question things that looked like they were non-value-added. And they have done exactly that.”

The St. Luke’s Lean campaign, of course, is still in its early days. However, the hospital is off to a very good start. For example, employees in Lean-implemented departments have become enthused about truly working smarter, not faster. In less than six months in a handful of departments, St. Luke’s has saved a million dollars in inventory. Scores, if not hundreds, of small efficiencies have been instituted.

Eyes on the Prize

“Lean is not something that comes real easily,” noted Russell. “It has to be worked on, it has to be understood. But it makes sustainability much more attainable than anything else I’ve ever seen. Out of all the initiatives that I’ve seen and done, this is clearly, hands-down, the sweetest.”

For his part, Dr. Pate has his eyes fixed on the prize of the “The Three Es.”

“To get to excellence,” he concluded, “I’ve got to have reliable processes. To get to efficiency, I’ve got to eliminate waste. Then if I do that, I will create employee engagement. And if I have true excellence, efficiency, and employee engagement, my hospital can’t be beat. That’s my strategy. And Lean is just my ‘operating system’ to allow me to achieve my strategy and my vision for this organization.”