Process improvement

The diary of one OR’s kaizen event

If you could huddle for 5 days with a few people who really understand your patient flow and you had the resources, what could you achieve?

A team at Integris Southwest Medical Center in Oklahoma City took that approach and came up with a surprisingly simple and inexpensive tool to address a fundamental obstacle—communication.

The 5-day project is known as a kaizen event in Lean management. (Kaizen means continuous improvement in Japanese.) These short, focused projects gather key team members in one place to improve a process. The team needs the support and resources to put improvements into effect immediately.

The Integris team included circulating nurses; holding area nurses; surgical technologists; the OR scheduler; the OR financial consultant, Bradley Cox; and the chairman of anesthesiology, Keley John Booth, MD. Dr Booth, who has an interest in the Toyota Production System where Lean was first developed, took time off from his practice to participate. Assisting was Richard Tucker from consultants Healthcare Performance Partners.

Here’s a diary of their kaizen journey.

Monday
Focus: Define the scope and purpose of the project. Dig to the root of the problem. Decide what problem to solve first.

At first, the team planned to address turnover time between cases. But as the members talked, they realized how many issues were affecting the flow of patients—room utilization, resource management (for example, there are only a certain number of fluoroscopy units for the OR), how patients get from one area to the next, and the predictability of the OR schedule.

“We decided to ask a simple question: ‘If Dr S has an 8 am surgery, where is the patient?’” says Dr Booth. “It hit me that the problem was not that we didn’t have enough people. It was that we didn’t have fluid communication among the departments.”

That was the problem the team set about solving.

Tuesday
Focus: Learn about the process. Map the workflow of the current state.

Tuesday was spent mapping the patient flow process, based on several hours of detailed observation of the current process.

By the end of the day, the team understood how tangled the process was, even for answering the simple question, “Where is the patient?”

“We knew we had bitten off quite a bit,” Dr Booth comments. “We started to worry it was too much to tackle.”

The team had also learned a lot about the process and began to appreciate the cost of the inefficiency.
“It was sobering to realize its complexity. We knew we could do better,” he says.

**Wednesday**

Focus: *What was clogging the process? How can the process be streamlined?*

Analyzing the process, the team identified 2 major themes:

- “We have to be able to communicate.”
- “We have to be able to identify where patients are at each stage of the process.”

They asked themselves what changes would allow that to happen. Two ideas were to use a white board or to adopt a technology solution. New technology is expensive and has a long lead time.

“It’s not the intent of Lean to open your wallet,” Dr Booth notes. “Plus, Lean is about changing the process today, not in the future. We wanted to know how to change our process today.”

The solution they settled on used a resource already at hand—Microsoft Excel. To aid communication, the team decided to develop a simple shared Excel spreadsheet that personnel in multiple departments could use to enter and access information about a patient’s status (illustration).

The hospital had tried commercial patient-tracking software in the past, but the staff and clinicians found it didn’t fit their process. Excel, on the other hand, is easy to format and customize, and it is easy to train the staff to use it.

By the end of Wednesday, the team was excited about the spreadsheet idea.

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The Lean team at Integris Southwest Medical Center developed a spreadsheet as a patient-tracking tool.
They planned to develop the spreadsheet and work with the IT department on how to share and store it. Steps were taken to make sure the spreadsheet was compliant with patient privacy rules.

**Thursday**

*Focus: Ran a trial to test the concept.*

By the next morning, with Tuck-er’s help, the first draft of the spreadsheet was ready to test. To run the test, the team invented a fictitious patient and used the spreadsheet to track and communicate about the patient’s status. They found they could track the patient almost without phone or fax.

“We were surprised by how elegant and simple it was,” Dr Booth says.

By late Thursday, the spreadsheet was being fine-tuned, and the team prepared for a presentation on Friday morning.

**Friday**

*Focus: Presented the spreadsheet to OR leaders and hospital executives.*

For the presentation, the team decided to take a risk and do a live demonstration of the spreadsheet. As leaders and executives watched, they accessed the spreadsheet and tracked a fictitious patient through every step in the process.

Dr Booth played the role of a surgeon’s office calling to book an emergency case to be added and performed within 2 hours. As the demonstration showed, the only phone call required was the one from the surgeon’s office. The only purchase—$99 for a wireless computer keyboard. The test was judged a success.

**Epilogue**

After the kaizen event in November 2007, the OR used the spreadsheet for 5 months. OR leaders also worked with the IT department on a more long-lasting solution. A consultant was brought in to produce a case-tracking system similar to the spreadsheet. The new system draws on information from the surgical scheduling system to avoid duplicate data entry.

The kaizen event enabled the OR to learn what it wanted in a patient tracking system, Cox observes.

“If we had just looked at a [commercial] patient-tracking system, I don’t think we could have done it,” he says. “With the spreadsheet, we could make case tracking fit our needs.”

Adds Dr Booth, “It proves you don’t have to spend a million dollars to get efficiency. You need the right people asking the right questions, with the appropriate support.”

Dr Booth’s enthusiasm for Lean continues. Other Lean projects have been conducted, including one for patient flow in the cardiothoracic service.

“Lean is a tool and a strategy for solving problems without waiting years and spending millions to achieve your goal,” he says. ✤

—Pat Patterson

**Lessons learned**

Lessons on Lean from Integris Southwest Medical Center:

- Copying Lean tools without understanding your own process doesn’t work.
• Reach consensus on definitions. For example, what does it mean when someone says, “Is the patient ready?” To a nurse, it might mean, “I’m finished with my part of the process.” To the surgeon, on the other hand, it means, “The patient is ready for the incision.”

• Keep asking why to get to the heart of a process. Probe beyond the usual answer, “We’ve always done it that way.”

• The team for a kaizen event must involve individuals who have working knowledge of the patient care process. If the right people aren’t at the table, you start out behind.

• Make technology support the process instead of forcing the process to support the technology.

• Lean is not just another improvement initiative—it’s a better way of doing things.