PODCAST 274:
LEAN SIX SIGMA FOR HOSPITALS

By Mark Graban

The second edition of Jay Arthur's book Lean Six Sigma for Hospitals *is about how to simplify, streamline, analyze, and optimize healthcare performance using Lean Six Sigma and change management techniques.*

Jay Arthur,
Lean Six Sigma Speaker,
Trainer, Consultant, and Author
KnowWare International Inc.
www.qimacros.com

My guest for episode 274 of the Lean Blog Podcast was Jay Arthur, author of *Lean Six Sigma for Hospitals: Simple Steps to Fast, Affordable, and Flawless Healthcare* (now in its second edition) and *Breakthrough Improvement with QI Macros and Excel: Finding the Invisible Low-Hanging Fruit.*

Jay spent 21 years at a telephone company building software and computers of all sizes until 1990 when the VP of IT operations said to him, "I'm going to get into this total quality improvement game," hiring Florida Power and Light to train staff in Total Quality Management (TQM).

Unfortunately, after a year, it was discovered that only about three out of 100 teams had succeeded, but Jay, who found the training to be the best he had ever taken, became a team leader and instructor. Over the next five years, Jay worked on various projects, ultimately finding himself in the finance department.

"We had lead a team that saved $20 million in postage and $16 million in adjustments. Then, in 1995, our leadership team said, 'Wait, we're not getting any return on investment (ROI) out of this total quality department,'" Jay said. "They shut us all down."

Canceling TQM programs because of lack of ROI was, unfortunately, a common problem (see the book *Why TQM Fails And What to Do About It* from the 1990s). I see similar things happening today with Lean in healthcare, so I asked Jay about his thoughts around that failure rate and if there are common issues today that might lead to the cancelation of a Lean or Lean Six Sigma program. Jay outlined a number of mistakes some organizations make when adopting these approaches, including:

- Too much mapping of processes and not enough fixing.

> *"In healthcare, every couple years, they pick up performance improvement and they drop it, and pick it up, put it down, pick up and put it down."*

"In our phone company, they got addicted to process mapping," Jay said. "We covered conference rooms' ginormous walls with flowcharts of how terrible it all was, but did we actually go out and start to say, 'What specific things do we need to fix?'" The answer, too often, was no.

- Inconsistent commitment to performance improvement from leaders.

"In healthcare, every couple years, they pick up performance improvement and they drop it, and pick it up, put it down, pick up and put it down."

"I have this theory, because I've looked at a lot of healthcare organizations, where the new CEO comes in and either takes Lean and Six Sigma out or puts it in. They change about every three years. There's been a whole lot of study about how cultures adopt, adapt, and reject change—over 50 years of study on this. What they found is, if the leadership team drives it, it invokes what is called the 'Stalinist paradox' [meaning that] only half of the time will it work," Jay explained. "The other thing they found is that if you want a culture to adopt a change, you need to get at least four percent [of employees] making improvements. At that level, it'll stick. At about 20 percent, it'll reach a critical mass and take off. It doesn't matter who the leadership team is. It is the informal leadership team inside that company, that hospital, whatever that is going to sustain the change. I'd love to have great leaders do this, but my observation is that doesn't happen."

- Not prioritizing and sustaining performance improvements that have been made.

Jay often hears about great performance improvements made in the emergency department or about improvements in lab turnaround times, but these improvements often fizzle and lose momentum after a while.

"I essentially believe that nobody is doing the 'C' in DMAIC [Define, Measure, Analyze, Improve and Control] and putting in a control system to say, 'Let's take this thing, and let's weave it into the very fabric of how we do business, and make that the way we do things, and put some control charts on it so we make sure it stays.'"

- Training performed by the wrong professionals.

"A lot of people I talk to in healthcare, they were trained by people who are manufacturing Six Sigma or manufacturing Lean people." Jay explained. "They are not healthcare Lean people. The amount of tools you need in the healthcare environment is very small compared to what you might need if you wanted to go out and optimize a plant that makes carburetors. What happens is they have a disconnect about how to translate what they're being told or taught into, 'How do I do that here?'"

- Not implementing the training.

"There was a recent article in the *Harvard Business Review* where they talked about 'the great training robbery.' They said, in the US, we spend $160 billion or something on training, and most of it's wasted. People go to class and learn all this stuff and then they go back and keep doing what they've always done. I see a lot of that as well."

A Slow Transformation

Jay said that, when it comes to solving and prioritizing problems that matter, he believes healthcare has spent too much time "admiring the problem." While the length of stay in emergency departments has remained unchanged for a decade and the report *To Err Is Human: Building a Safer Health System* said a hundred thousand people a year die unnecessarily, not enough progress has been made, except in a few exemplar hospital systems.

"How do we get [more hospitals] on board? I believe Medicare is forcing changes through payment [reform]. That's one thing," Jay said. "We're seeing a slow shift towards a patient centric model in the exemplar hospitals and not so much in other places. It's this horrifically slow transformation."

"Because half the hospitals are in some sort of financial problem, I believe that somebody offshore is going to figure out a model that will drive costs down and deliver great quality of service. They will come in and just buy up hospitals, take them over, and teach them how to run. And I think they're going to force it down people's throats, and I think that will be an ugly day for healthcare, but I think it's coming."

> *"Out of the $2.9 trillion we spend in healthcare, a trillion dollars is for waste and rework. That's a lot. $250 billion of that is for unnecessary tests and treatment. That's overproduction. There's this huge opportunity."*

Despite the slow transformation, Jay believes these problems are solvable, that every problem is solvable.

"In 2004, Robert Wood Johnson Hospital out in New Jersey won the [Malcom] Balridge [National Quality] Award. In their emergency department, they set a goal; they said you're going to see a nurse in 15 minutes, a doctor in 30 minutes, or your visit is free. Guess what? They didn't give away any money or very little money," Jay said. "What that did was everybody figured out, I can go there, and get my kid in and out in, or whoever it is, in and out in a very timely fashion."

"I was talking to some people from there a few years ago, and they said, 'Yeah, we had to add another wing on the hospital, because there was so much volume coming through the emergency department, it needed a whole new wing, to meet the need. We didn't have to transport people to other hospitals.' That's Lean. That is Lean at warp speed, driving improvement, growing possibility. It's just amazing."

Jay explained that this approach, even though it's not focused on cost-cutting, leads to savings.

"Every company, according to Juran, throws away 25 to 30 percent of their revenue, fixing stuff that shouldn't be broken and trashing stuff that can't be fixed. The same is true in healthcare. Out of the $2.9 trillion we spend in healthcare, a trillion dollars is for waste and rework. That's a lot. $250 billion of that is for unnecessary tests and treatment. That's overproduction. There's this huge opportunity." Jay said. "There were estimates that said that if we cut that by 20 percent it would pay for Obamacare. If we cut it by 80 percent it would clear the national debt."

Jay said that he believes a dramatic improvement could be made in just 18 to 24 months by reducing what he calls the "three silent killers of productivity and profitability:" delay, defects, and deviation. However,

instead of just taking out the axe when times get tough and cutting without reason, Jay said that using Lean to increase speed so that there is no chance to make a mistake, because the patient file is never put down, is a more effective solution.

"If we use Lean to simplify and streamline, then we use Six Sigma to optimize, to find the things you can't find, necessarily, through a Lean approach," Jay explained. "Then we can start to really chop away at that cost."

Lean and Quality Improvement

I challenged Jay a bit about one aspect of his book, *Lean Six Sigma for Hospitals*, where Jay says that Lean will reduce six types of waste, while Six Sigma is the method you need to reduce defects. I reminded Jay that Lean and the Toyota Production System are about both flow and quality, how they go hand in hand, and how Lean has many methods and mindsets that very directly reduce defects (as one of the Lean "7 types of waste").

Jay didn't directly answer the question, saying, "Sometimes, people get their undies in a bunch about the rigor of either a Lean or a Six Sigma. I'm less of a purist, and more of a realist. How do we get people on board with things?

> *"For me, in healthcare, if you want to reduce your cycle time and reduce defects, get thee a value stream map and a spaghetti diagram and go to work."*

"In healthcare it's not like a manufacturing factory floor. It is clinicians working with patients. Their big problem is the gaps between the clinician being with

a patient and the next step in their process. One of the great things about Lean is if you collapse those delays, then you don't have a chance to make a mistake," Jay said. "Lean, as a result of removing all those other six wastes, you get phenomenal improvements in quality, no doubt about it. You're not going at it directly. My observation is you're going at it indirectly."

I countered that you're doing both with Lean, as there are direct methodologies around root cause problem solving and Lean problem solving that directly address many quality problems and sources of defects, which then lead to improved flow. It's not just an indirect result.

"Even root cause analysis is in the middle of Six Sigma, so how do we separate those two apart?" Jay said. "How do we pair those out? I'm not trying to make them one right and one wrong. What I'm trying to do is offer to the people that I'm talking to, 'What tool is vital for you to use?' For me, in healthcare, if you want to reduce your cycle time and reduce defects, get thee a value stream map and a spaghetti diagram and go to work."

Jay said that when he sets out to train a group of nurses and gets them to do a value stream map, or a spaghetti diagram, they figure out how to cut travel time in their nursing unit in an hour.

"If they cut all their travel time, they're going to spend more time with patients. If they spend more time with patients, they're going to have better outcomes and better patient satisfaction, and get paid more money. It's so simple," Jay said. "I don't disagree with you that Lean can have dramatic improvements in quality. Six Sigma's going to go after it directly, but you should do that after you've done Lean."

Jay said that he tries to make Lean

and Six Sigma simple enough to empower people to do it.

Keeping it Simple

"One of the things that I observe is we try and teach people things they don't need, to solve problems they don't have. In healthcare, you need a much smaller toolkit than you need to do things on a factory floor," Jay explained. "Even Deming, I saw him many years ago. He said, 'I have no idea why anybody put the word 'total' in Total Quality Management." Deming reminded people to focus on the vital few, not the trivial many.

Jay went on to say that through Total Quality Management or Six Sigma people sometimes get the idea that they have to go floor to ceiling, train a billion belts, and tackle everything on the planet, but all that accomplishes is wasted time and energy

"Most of my projects get done in an afternoon. I helped one local hospital save $5 million dollars in denied insurance claims in an afternoon. They implemented the changes in the process the next Monday morning," Jay said. "I think the Six Sigma world has done a disservice by overcomplicating what we're trying to do and what problems we're trying to solve."

Jay pointed out that, for 25 years we've been teaching Lean and Six Sigma in the same way, and wondered if there's a better, faster way to teach it today.

"It's become one of those things where people are chasing a belt so they can add it to their resume. We've trained a gazillion belts. Why aren't things any better?" he asked.

To wrap up I asked Jay about writing his book *Lean Six Sigma for Hospitals: Simple Steps to Fast, Affordable, and Flawless Healthcare.*

Jay explained that, back in 1999, when *To Err Is Human* was published, the Joint Commission told hospitals, "If you want to be an accredited hospital, they would need to draw control charts" *Breakthrough Improvement with QI Macros and Excel* became popular.

"Because of that, I got called in to work with various hospitals across the nation," he explained. "The first edition of the book started to talk about what I was seeing and how to use Lean and Six Sigma in a hospital environment."

Since the publication of that edition Jay has seen the movement toward "Zero Harm," where a number of hospitals, most notable Memorial Hermann in Houston, are becoming "High Reliability Organizations."

"Their definition of a High Reliability Organization is Lean, Six Sigma, and the missing link, Change Management," Jay said. "In [the second] edition, I talk more about high reliability organizations. I also have a variety of case studies."

If you want to find out more about Jay and his books, you can find him at qimacros.com. Jay also has a free Lean Six Sigma Yellow Belt training with healthcare examples. That address is lssyb.com.

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