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THE ONLY HEALTHCARE BUSINESS NEWS WEEKLY | MAY 5, 2020

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**Dr. Gary Kaplan,** CEO, Virginia Mason Health System

# BAD REPUTATION

The term **Lean** may have lost its cachet, but its principles live on among devotees

By Maria Castellucci

**V**IRGINIA MASON HEALTH SYSTEM IN SEATTLE was among the industry's earliest adopters of Lean, a management process based on Toyota's production system that focuses on identifying areas of waste to improve quality and efficiency at an organization.

Yet Dr. Gary Kaplan, the longtime CEO of Virginia Mason, shies away from using the term when describing the system's 18-year-old management system.

Rather than calling it Lean, Kaplan prefers to describe it as the Virginia Mason Production System. "The reason I don't like the word Lean is it implies it's a toolkit (rather than a production system) and to some people it's misinterpreted" as a way to cut costs, Kaplan said.

The Lean management system has gained a bad reputation in the two decades since it first made a splash in healthcare, causing its most long-term supporters to run away from the term while still standing by the philosophy.

The approach, which is described by advocates as a holistic management system reliant on a culture of continuous improvement to drive out waste and inefficiency, has evolved into a bureaucratic, cost-cutting strategy for many hospitals and health systems.

"There is a negative connotation associated with it, the connotation that Lean is mean," said Dr. John Toussaint, an expert on Lean and chairman of education institute Catalysis. Toussaint also doesn't like using the word Lean anymore and prefers calling it organizational excellence.

"There has been a lot of talk recently that Lean is being used to make people more efficient and to get staffing numbers down," Toussaint said, "and that is just absolutely not what Lean is."

### The Lean misunderstanding

Lean is done properly when it's integrated across a system from the C-suite to front-line caregivers, according to quality experts. Importantly, those providing care are given tools to consistently find areas of inefficiency in their work and lead the effort to implement solutions, with the goal of improving quality and safety for patients and staff. Decreasing costs isn't the main aim, but it likely happens as a result of Lean-inspired changes.

The main issue is that rather than hospitals and health systems deploying Lean in this way, leadership will pick and choose certain Lean principles or tools with the goal of lowering spending, Toussaint said.

"If you only look at it from a financial perspective, you won't actually be able to sustain any of the work because your workers will buck and rightfully so," he said. "That is happening in so many places."

Many organizations likely haven't implemented Lean in the prescribed way because there is a misunderstanding of what the management system should look like, said Dr. Kedar Mate, chief innovation and education officer at

## The three biggest names in quality improvement

**Lean:** Based on Toyota's production system, it's focused on eliminating waste by identifying inefficiencies.

**Six Sigma:** First introduced by Motorola, it uses data to remove defects and variation in processes.

**Baldrige Excellence Framework:** A systemwide approach designed and overseen by the federal government used to improve quality of care that can incorporate Lean and Six Sigma.

*Source: Modern Healthcare reporting*

the Institute for Healthcare Improvement.

Too many system executives interpret Lean as the act of implementing some of its tools in a few units, rather than spreading the approach across the entire organization, including the board, C-suite and front-line workers. For instance, some organizations will implement Lean's A3 process, which is a collaborative approach to solving problems, in parts of their organization and call themselves Lean, Mate said.

"Learning about Lean management is fundamentally different than learning about the Lean tools," he said.

The same is true for other healthcare management systems, such as the Malcolm Baldrige system, Mate added. The IHI works closely with providers to help them implement systemwide performance improvement systems.

Healthcare leaders can also be misguided by consultants with so-called Lean expertise who advise clients to take a cost-cutting approach, said Mark Graban, a consultant on the management system.

"There are some consultants who lead with costs, costs, costs as their sales pitch," he said. "There's a real market for that, but it's not really Lean."

If a management system isn't implemented throughout the organization, it likely won't last long there. It can go away if the C-suite or the board changes. "Healthcare management methods can shift fairly regularly," Mate said.

### Benefits of using Lean properly

Providers with a systemwide Lean man-

### THE TAKEAWAY

Health systems using the Lean management system were probably better prepared to respond to COVID-19, but experts argue most Lean hospitals don't use it correctly.

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agement system are likely doing much better as they make drastic changes to operations in response to the COVID-19 pandemic, Toussaint said. In a time of unexpected challenges and rapid changes, Lean's emphasis on tiered daily huddles among caregivers and leadership has proven essential because it allows vital information to quickly move from the front lines to management. Additionally, the Lean principle of deploying teams of caregivers to discuss problems and solutions decreases the likelihood that approaches will be misguided or poorly executed in a time when things need to happen fast.

"If you haven't developed a Lean management system ... this (pandemic) will be the turning point," Toussaint said. "Without that system in place, and it's a very specifically designed system, you just can't manage this crisis or the next one."

Indeed, Kaplan said Virginia Mason's management process helped the health system greatly as it was forced to respond quickly to the COVID-19 outbreak in late February. Employees had a common language and tools to fall back on, which proved vital in a time of rapid change.

"I think about how we were changing gears, changing approaches, modifying work teams, modifying workflows, at times cutting back on things and at other times escalating things like televideo or drive-through testing," Kaplan said. "That's not something you do every day and that requires people to welcome and embrace change, to understand being nimble, that is part of our mentality and mindset at Virginia Mason, and I think that really helped us in responding to this crisis."

Lean is also proving helpful as health systems begin exploring how to restore business to pre-pandemic levels.

MemorialCare in Long Beach, Calif., is looking into how it can reschedule postponed procedures in a few weeks using Lean principles, said Helen Macfie, chief transformation officer. The system is working closely with its physician group to discuss adapting surgical procedures, with safety a top priority for staff and patients. "What will change this year, the next year and the next five years because of all of this? We use Lean thinking for that," Macfie said.

While Mate said those with the Lean management system are likely better off as the pandemic continues, the same is true for any organization with any kind of systemwide management system. He said Lean principles



BOBBI WISEMAN/MEMORIAL HEALTH SYSTEM



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Hospital group president of Memorial Health System in Springfield, Ill.

are similar to other healthcare management systems like Baldrige and Six Sigma.

"Fundamentals of how you operate your daily, clinical and operational infrastructure ought to look like a whole system quality-based management method," Mate said. "Those that have implemented these things even partially seem to have a more rigorous and successful response" to the pandemic.

That's not to say there aren't some issues with Lean, even for organizations that implemented it correctly, experts say. A core tenet of Lean is just-in-time inventory, which involves having only the expected necessary quantity of supplies at a given point in time.

The COVID-19 pandemic shed light on problems with just-in-time inventory methods as health systems quickly faced shortages of necessary equipment such as N95 respirator masks, ventilators and swabs. "Everybody using just-in-time inventory, including our national and state stockpiles, found (them) woefully inadequate," Kaplan said.

### Reconsidering just-in-time inventory

Virginia Mason practices just-in-time inventory, and while it won't jettison the method, Kaplan said the system is reconsidering how it's applied. The system might take steps such

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as increasing its supply of N95 respirator masks and other vital equipment that's been needed for the COVID-19 pandemic, he said.

Graban said just-in-time inventory doesn't mean having just the bare minimum of supplies on hand. Providers should have a strategic supply-chain plan that considers peak seasons for certain illnesses. "There is a misunderstanding out there that just in time means low inventory," he said.

Lean also isn't great at addressing unknown and unexpected problems such as those presented by the COVID-19 pandemic, said Charles Callahan, hospital group president of Memorial Health System in Springfield, Ill., who was recently a Baldrige Program fellow and has specialized Lean Six Sigma training.

The five-hospital system has used Lean Six Sigma for 10 years. While Lean focuses on workflows to decrease waste, Six Sigma is a data-driven approach to cut out variation. "Lean Six Sigma is very powerful. We have had great results and we continue to have great results, but it's not enough for all the things we need to achieve," Callahan said. "Our Lean Six Sigma program isn't designed to deal with the out of the blue kind of things, but if it's embedded into a bigger innovation system, and if we have the ability to do some kind of rapid experimentation," performance can improve.

Callahan said Memorial Health has spent a few years preparing to implement new products and processes, but COVID-19 really emphasizes the need to continue that investment.

The system recently created the combined role of chief innovation and quality officer. For about two years it has also been practicing Lean StartUp, which involves rapidly testing new ideas without using many resources.

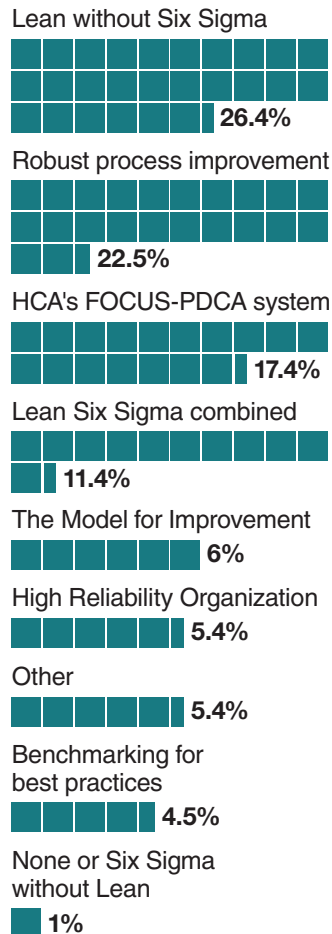
The concept was used to create a prototype shield to surround the beds of COVID-19 positive patients to protect healthcare workers. Callahan said Memorial Health found the solution too clunky to be used easily, but staff didn't spend much time or money on it.

"Many times in healthcare, you go to a meeting and you see a fancy gadget or program and you spend a lot of money on it, bring it in, but it doesn't work and all of the money is sunk," he said. "The Lean StartUp model doesn't spend a lot of money from the start."

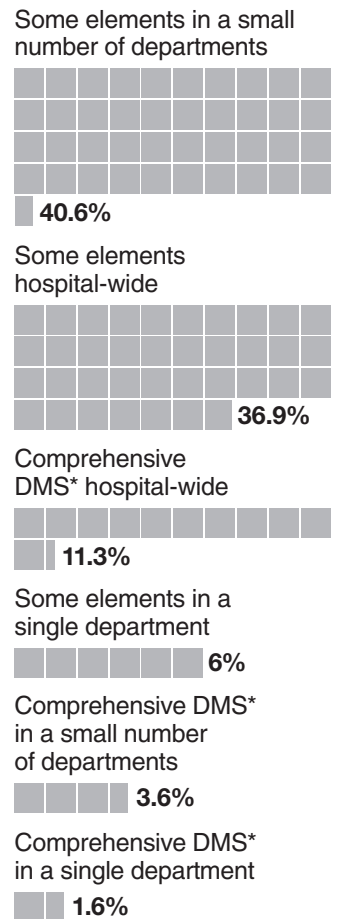
Toussaint said it's not so much that Lean isn't good at spurring innovative processes, it's that most health systems haven't used it in that way. Most organizations apply Lean principles to existing, known problems at their organizations, rather than using it to create totally new ways of doing business.

## Performance improvement approaches

### Most commonly used in hospitals



### Where approaches are most commonly introduced



\* Daily management system

Source: "Use of Lean and Related Transformational Performance Improvement Systems in Hospitals in the United States: Results From a National Survey," *The Joint Commission Journal on Quality and Patient Safety* 2018

"The idea of building a new process that isn't based on an old process is part of Lean thinking, but it hasn't been introduced in healthcare widely. It's beginning to be introduced now," he said.

Toussaint said the changes COVID-19 has spurred in healthcare have been a "fascinating experiment."

"The question is going to be, will this lead to a fundamentally new process of care delivery? Speaking as a former clinician, that process has been needed for the last 20 years," he said. ●