A Management, Leadership, and Board Road Map to Transforming Care for Patients

John Toussaint

SUMMARY • Over the last decade I have studied 115 healthcare organizations in 11 countries, examining them from the boardroom to the patient bedside. In that time, I have observed one critical element missing from just about every facility: a set of standards that could reliably produce zero-defect care for patients. This lack of standards is largely rooted in the Sloan management approach, a top-down management and leadership structure that is void of standardized accountability.

This article offers an alternative approach: management by process—an operating system that engages frontline staff in decisions and imposes standards and processes on the act of managing. Organizations that have adopted management by process have seen quality improve and costs decrease because the people closest to the work are expected to identify problems and solve them. Also detailed are the leadership behaviors required for an organization to successfully implement the management-by-process operating system and the board of trustees' role in supporting the transformation.

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he healthcare organizations that are radically redesigning management processes share one characteristic: Lean thinking. Introduced in the United States in bits and pieces beginning in the early 1900s, Lean thinking states that customer needs are a company's first concern. Henry Ford designed mass production systems by beginning with what the customer would pay for (value) and then working backward to design a product and production process to deliver that value to the customer in the least amount of time and with the least amount of waste. Ford was also a true value stream thinker, drawing maps of every production process.

During World War II, the US Department of War urgently needed materials from manufacturers that were suddenly staffed with untrained workers. To train a

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lot of workers quickly, the War Department focused on educating the supervisors, or training the trainers, and on standardizing the work performed. Using process-management con-

cepts, the department launched Training Within Industry (TWI). Stocked with Leanthinking principles, TWI was the linchpin to training millions of unskilled laborers.

After World War II, influential author and consultant W. Edwards Deming took many of these ideas—including management by process—to Japan. Japanese companies struggling to overcome the devastation of the war were already bringing radical notions like teamwork, continuous improvement, customer pull, and zero inventories to manufacturing. Eventually, executives at Toyota Motor Company pulled all these ideas together to create the Toyota Production System (TPS). Now Toyota periodically overtakes General Mo-

tors (GM) as the largest auto manufacturer in the world (Marr 2009).

North American companies have been studying and implementing TPS for two decades now, but similar successes have been elusive. We expect organizations to change—to improve by leaps and bounds—using Lean thinking without changing the way leaders lead. We are missing the key ingredient, management by process, whereby leadership is expected to be reliable, standardized in its operations, and accountable to those being served. In his book Out of the Crisis, Deming (1983) described 14 points for an effective management-by-process system. A colleague and I recently published an extensive review of how these principles translate to the healthcare environment (Toussaint and Berry 2013), in which we noted the following management-byprocess principles for healthcare:

- Value for patients
- Clarity of purpose
- Continuous improvement (pursuing perfection)
- One-piece flow for patient care
- Standard work for administration and clinical care
- Respect for people

These principles are consistent with the five Lean principles James P. Womack and Daniel T. Jones (1996) describe for manufacturing in the book *Lean Thinking*: value, value stream, flow, pull, and pursuing perfection. Here I review these principles and briefly consider the components of management-by-process standard work that flow from these principles (Barnas 2011).

First, however, we must understand how the majority of healthcare organizations are led today and why transformation is necessary. A report from the US Department of Health and Human Services (2010) revealed that an estimated 1.5 percent of Medicare beneficiaries died in October 2008 due to medical errors. This rate was unchanged from the 1999 Institute of Medicine report that estimated up to 98,000 unnecessary deaths per year due to medical errors. In addition, the cost of the US healthcare system continues to grow exponentially. In straightforward terms, our healthcare system is causing unnecessary death and overcharging us for the results. The system must fundamentally change—and its leadership along with it—or we will continue to expect different results from the same process, which, according to popular wisdom, is the definition of insanity.

The flaws inherent in top-down, or Sloan-style, management are most obvious in the fact that only the top leader's opinions and knowledge are certain to count in decision making. If the leader is wrong, the company is in trouble. When I was the CEO of ThedaCare, an integrated health system in Wisconsin, everyone in the organization looked to me for answers. When I was truly honest with myself, however, I had to admit I was often guessing. No process was in place to make the right decisions, to sift good information from the noise, or to learn from past mistakes. Furthermore, the real work of patient care was so removed from the C-suite that it was impossible for me to know what was really going on.

Still, a CEO must fill a vacuum. So, I made uninformed or poorly informed decisions because I was relying on information developed by other senior managers who also were far removed from the crucial work. We all went to our jobs each morning intending to do good work, but

the process in which we did so was perfectly designed to deliver chaos and unreliable results.

Seeking systemwide change, Theda-Care began its Lean journey in 2002. In the process, its executives became different leaders.

THE CORE PRINCIPLES OF LEAN HEALTHCARE

What I now know is that a core set of principles underlies a Lean operating system. I have observed these principles in action around the world. Organizations that adhere to the principles undergo transformational change that is sustainable. But these principles are not intuitive. Perseverance and help from external teachers who are deeply knowledgeable in the application of those principles are required to undergo such change.

Value for Patients

Value (V) in Lean healthcare is defined as quality (Q) divided by cost (C) (Porter and Teisberg 2006):

$$V = Q_i/C$$

Here, value is defined from the customer's perspective—we must focus on activities that create value for the patient—and every aspect of the care process design should emanate from this fundamental principle. Yet, when visiting healthcare organizations, I am constantly surprised that neither caregivers nor leaders can describe the current process of care delivery, let alone identify which elements are of value and which represent waste.

The most important tool we use to understand the care delivery process is a value stream map. A value stream is the process that delivers value to the customer. П

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For an organization to improve, its leaders must understand the existing processes by mapping out each step in each current process of the patient experience. At ThedaCare, the mapping was presented visually to allow us to understand how to change the steps for the better. Once the existing state is documented, a series of simple questions is asked of the customer, starting with, "Which steps are you willing to pay for?"

Years ago, I participated on a team that studied the value stream of care from the time of a baby's birth to the baby's first doctor visit after leaving the hospital. As we mapped out the existing state of our

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process, we stopped and asked the mother, Mandy, which steps she would pay for. For example, when Mandy's baby was born, the nurse went to the medication robot to get drugs, hurried back into the room

and delivered the medicine to the baby by injection. Mandy said she was unwilling to pay for the nurse to run around looking for the medicine but was willing to pay for the nurse to give her baby the injection. The team, which was authorized to act immediately on improvements, relocated the medications to a locked box at mothers' bedsides by week's end, leading to an increase in nurses' productivity and improved quality of care.

Clarity of Purpose

When visiting hospital leaders, I ask a simple question: "What matters most to your patients?" I get quizzical looks and answers such as "the EMR" or "the new radiation machine" or "all of our doctors are board certified." Rarely do I see a few focused metrics that track the

real concerns of patients as defined by real patients. I visited one hospital that cited 150 key performance indicators. Who can claim that 150 keys are useful or memorable?

Lean leaders use a few metrics, described as "true north." These are the eight or fewer measurable results that really matter to patients, covering issues such as death and pain. Examples of true north metrics include mortality rates, medication errors, and infection—performance measures we would all want to be aware of as patients. The process measures that organizations are mandated to report to the government have little importance when lives are at stake.

I also see dozens of strategies carried out at hospitals and health systems. Senior managers do not see that each time a new strategy is launched, it adds layers of complexity between caregivers or administrators and patients. As we load more and more strategy onto the frontline caregivers, we reduce their ability to complete the work that matters most.

Continuous Improvement

In most healthcare organizations, if an employee has an idea and is encouraged to write it down, it lands on the manager's desk. And there it sits. Unleashing the energy and the ideas of every employee to identify and solve problems is a huge task, but it changes everything. After years of successes and failures in encouraging even demanding—employee participation, we found the secret sauce in PDSA, or Plan-Do-Study-Act. PDSA is nothing more than scientific method applied to daily work. The concept was introduced in the 1930s by Walter A. Shewhart (1939) as PDCA, or Plan-Do-Check-Act. Deming modified the method, claiming that

studying is a better description of the work of improving a process than checking is. Teaching frontline workers to apply a standard process to solving problems encourages, excites, and engages them in ways I never imagined. The role of management shifts to encouraging and teaching staff to identify and solve problems. Frontline staff typically are excited when their ideas for improvement are implemented. They brag a little to friends, and the energy goes viral. At ThedaCare, more than 20,000 staff ideas were implemented in 2011. The goal is to double that number in 2012.

One-Piece Flow for Patients

The success of one-piece flow requires that the care process be designed exclusively around the customer experience. The value stream should deliver care so that no stoppages, waiting, or defects occur. For example, if a cardiologist consultation is ordered, it should not be carried out the next day, at the cardiologist's convenience, but rather immediately, so the patient can move along in the care process without interruption. The same principle applies to tests such as MRI scans and X-rays. Every patient need should be delivered immediately once it is recognized. In the outpatient clinics at ThedaCare, more than 90 percent of laboratory tests ordered for patients in 22 clinics are performed and results provided to the ordering physician in less than 15 minutes. This timeliness allows the doctor to have the lab results before the patient leaves the office. The doctor can then adjust medications or make other suggestions face-to-face. This approach cuts down on phone calls and errors, and it allows patients to have all the information they need on a single plan of care before they leave the office.

Standard Work for Clinical and Administrative Processes

Standard work is an unwelcome term in healthcare. Physicians and nurses think of standardization as arbitrary rules—like policies compiled in dusty old manuals that hinder care. But in a Lean environment, standard work is embraced as fundamental to improvement. Howard Jeffries (2012), a pediatrician at Seattle Children's Hospital, even described standard work as the fundamental principle underpinning the release of creative thinking. The example he cited involved using a standard protocol for albuterol treatment in children with asthma that identified immediately whether the treatment gave kids any relief. If it did not give relief, then doctors on the team were free to use their judgment and creativity to consider other potential diseases as causes. Without the rigorous application of treatment standards. Seattle Children's physicians might have misdiagnosed the disease.

Respect for People

Respect for people as a key principle is difficult to define (Liker and Hoseus 2008). The work of Paul O'Neill, CEO at Alcoa from 1987 to 1999, provides a good illustration. On taking over this closely watched, publicly held giant, O'Neill told a large gathering of Wall Street investors in his first public remarks that creating a safe workplace was the company's first job. To do this, leaders had to unleash the creativity of every individual, create an environment of continuous improvement, and help every associate do work that would give his or her life meaning. And creating work that is meaningful and safe is the mark of profound respect for people (O'Neill 2012).

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We now know this idea works in healthcare to improve safety, too. Staff at the Christie Clinic in Champaign, Illinois, meet every morning before clinic hours and ask a simple question: "Are we going to have a good day today?" This question allows everyone on the team, from administrative assistant to physician leader of the ear, nose, and throat practice, to discuss problems and possible countermeasures. It builds teamwork and trust, and its affirmative foundation has led to improvements in patient wait times by 30 percent and throughput in the clinic by 10 percent in nine months. Staff satisfaction with this process scores 5 out of 5 points.

THE MANAGEMENT-BY-PROCESS OPERATING SYSTEM

The core principles provide the foundation for the ideal healthcare management system. I have rarely seen evidence of a formal management system that truly supports improvement. Most managers are accustomed to doing what they want with little oversight. In great Lean companies, however, the management system is clear and deliberate, and it ties the work of the front line to senior management decision making and vice versa. For details about this healthcare management system as practiced at ThedaCare, review the article by Kim Barnas (2011), president of the hospitals at ThedaCare.

Other healthcare organizations, such as SickKids and The Scarborough Hospital, both in Toronto, have rolled out a similar approach and collaborate with ThedaCare on a regular basis.

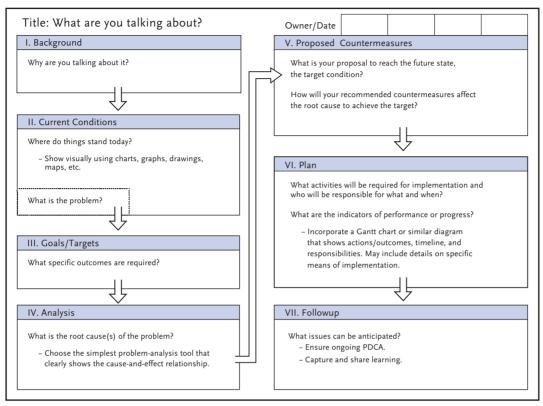
Core Components of a Healthcare Management-by-Process System

Leaders of these and other Lean organizations have found the following components to be critical to a management-by-process system:

- A3 thinking
- · Daily status sheet
- Daily performance-and-defect review huddle
- Unit-based leadership teams
- Standard work for leaders and supervisors
- Standard work audits
- Visual progress tracking
- Andons

*A*³ *thinking.* Leaders of a management team at any organization meet regularly. The difference in meetings conducted at a Lean organization using A3 thinking a type of focused problem solving (Exhibit I)—is the rigorous process approach employed for discussion. These meetings usually happen at gemba (the Japanese word describing the place in a company where value is created, such as a hospital unit or the factory floor). A3 thinking is an extension of the PDSA cycle but generated on a single sheet of A3-sized paper. The purpose is to capture the team's opinion about the problem, including the background and current condition, represented on the lefthand side of the paper. On the right-hand side, the team characterizes the goals, possible root causes, and potential countermeasures or experiments discussed. This process allows for dialogue and captures all participants' thoughts (Shook 2008). Instead of engaging in circular arguments, the management team has gathered real data and determined a clear problem statement. This rigor helps to remove emotion and facilitates solutions.

The daily status sheet. Every morning, executives, managers, and supervisors at The Scarborough Hospital go to gemba during a two-hour meeting-free zone.



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That is, they go to the front lines of work and engage in a dialogue with staff on the status of patients on the unit or in the clinic. Each manager and executive follows a set of standard questions to determine how to avoid errors and improve care that day. This status sheet approach has significantly reduced frantic calls regarding incorrect staffing mixes and patient or family dissatisfaction. Managers and executives report less firefighting and fewer customer complaints because they now take time every morning to look ahead and anticipate trouble.

A daily performance-and-defect review. On the pediatric medicine unit at Sick-Kids, a 15-minute gathering of staff and the manager occurs each day, where staff

and physicians identify problems that have occurred in the last 12–24 hours. Staff members then volunteer to work on specific problems. The manager's job is not to solve problems, but to coach and mentor staff in problem solving. At this time, the manager can update staff on improvement ideas, progress on reaching targets, or resolution of problems from the previous day.

Unit-based leadership teams. Each unit or clinic identifies the leadership team responsible for review of the unit's work. This team includes the manager, the supervisor, and leaders from finance and quality. Then, they complete PDSA cycles on big issues that cannot be solved by a frontline worker. Such issues might

include cross-departmental or system concerns or major safety and quality problems that could affect the entire hospital.

Standard work for leaders and supervisors. This component refers to standardizing the work that leaders do every day at gemba to ensure reliability. The work includes running huddles, performing daily status sheet reviews, performing visual management, training staff on PDSA and A3 thinking, and auditing standard work on the floor. Meetings are minimized and,

How can any of us be "too busy" to be involved in delivering reliable care to our patients? once standardized, they become streamlined because all participants know what to expect.

Audits of standard work. Standard work is defined as

"the best-known steps required to perform a job" (Taylor 1911). Imai's (1997) teachings make clear that nothing can be improved until it is standardized. In healthcare, we have few standardized processes, resulting in the variation in performance experienced by hospitals. A Lean organization notates the standard work for processes, such as admitting new patients, and then audits the process on a regular basis to know whether steps continue to be followed and remain the best-known steps.

Because circumstances change, standard work changes. Today's best-known way may not be tomorrow's. If standard work is changed, every worker must be informed and trained, if necessary, in the new standard work. That way, the change can be measured and we can determine if the new way is better than the one used before.

Visual progress tracking. The huddles that take place every day in a Lean health-care environment are often located at the visual progress-tracking boards in clinical and administrative units. Ideas for improvement are reviewed and important

driver metrics are displayed on these boards. Driver metrics are the measures that each unit or clinic uses to determine whether it is contributing to the organization's true north. The metrics represent those measures that a business unit can influence on a daily basis.

Lean healthcare organizations, such as Atrius Health's Harvard Vanguard Medical Associates clinics in the Boston area, use visual tracking of clinic and administrative performance to determine if the process is performing to standard. For example, the lab at the Kenmore clinic, in Boston, tracks the turnaround time for routine blood tests. The frontline lab staff know how many specimens come to them mislabeled and immediately work with nurses and technicians to understand the root cause and apply countermeasures to correct the problem.

Andons. An andon is an indicator that calls "time out" when a problem is identified by a frontline worker. ThedaCare uses andons to stop work and convene a team to solve the problem immediately. If the team cannot solve the problem, it is sent up the chain of command for immediate consideration. Having the opportunity to escalate the problem to the appropriate level of management is important. The point of this intense problem-solving process—still using PDSA—is to prevent defects from being passed on to the next patient. If the problem is solved and new standard work is implemented immediately, the same problem will not happen again.

CHANGING THE LEADER'S BEHAVIOR

Applying all the concepts I have described to this point is possible only when leaders are willing to change. I meet regularly with CEOs, many of whom claim they are

simply too busy to be involved with day-today operations of the organization. I understand. I was the CEO of a large, multifaceted healthcare operation, too. But how can any of us be "too busy" to be involved in delivering reliable care to our patients? I think the real reason this attitude exists is that most leaders do not want to change. The truth they do not utter is, "Change is great as long as I don't have to do it."

As we embarked on the Lean journey at ThedaCare, however, I found that my behavior modeled every activity and policy for the organization. The journey required that I behave differently. But I did not know what the critical behaviors actually were. Once I started to understand them, I then had to figure out how to change. But before we can change, we have to understand why we act the way we do.

White Coat Authority Versus Improvement Leadership

We are products of our environments. In my educational discipline, I was taught to be autocratic and decisive. My clinical professors, the people in charge, told me what to do and I was expected to do it. If I did not succeed, they blamed me. No matter how much I hated it, this behavior modeling led me to develop the same shameand-blame reactions that my professors displayed. This flawed training system is one of the reasons disrespectful and derogatory environments exist in healthcare organizations. Errors, or not knowing the answer immediately, were cause for guilt, not learning. No standard work was taught. I was an apprentice to a great master (and all of my professors were great masters). If I tried to use standard work, I was derided. Even back then, we had a handbook written for house officers, called The Washington Manual of Critical

Care (Kollef and Isakow 2008), which listed complicated protocols used to save lives. When every step was followed correctly—similar to a pilot's checklist—the protocols reliably helped treat patients. My superiors called it "cookbook medicine" and told me to throw it away and use my judgment. Fortunately for my patients, I did not listen to them.

Once poor habits are obtained, however, they are difficult to shed. As Theda-Care embarked on the Lean journey, I realized that shame and blame could not be part of an improvement environment. If I did not stop blaming others, no one else would, either. If I told others what to do. every other leader would feel entitled to practice autocracy. We had to move away from controlling, blaming, and shaming behaviors and embrace a different nature. In an improvement environment, leaders are required to be coaches, serve as mentors, and remove barriers (Exhibit 2). Learning these new behaviors starts by going to gemba.

Going to Gemba

Leaders spend a lot of time in their offices and conference rooms. But these locations are not where value is created. Some leaders are uncomfortable going out to the floor and talking to staff, perhaps because they lack clinical knowledge. For me, the discomfort came from not knowing what to do when I got there. What purpose did I serve? Would I be perceived as being in the way? I had read that leaders should conduct walk-arounds. The problem with this concept is that if the leader is only seen walking around without actually doing anything, it has the opposite effect of what is intended. Staff might think the leader has too much free time. A leader might be confronted with problems he or she cannot

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EXHIBIT 2 White Coat Leadership Characteristics Versus Improvement Leadership Characteristics

White Coat Leadership	Improvement Leadership
Exhibits an "all knowing" attitude	Demonstrates humility
Adopts an "in charge" posture	Exhibits curiosity
Demonstrates autocratic tendencies	Facilitates improvement efforts
Adopts a "buck stops here" approach	Teaches others
Shows impatience	Learns from others
Blames others	Communicates effectively
Controls others	Perseveres

solve or questions that cannot be immediately answered. It is scary to go to gemba.

My perception of going to gemba changed when I realized I was not there to walk around but to help. CEOs have a role to play in the transformation. The reason leaders go to gemba is to help staff improve value for patients. Just as front-

Curious leaders ask great questions, which is harder than one might think.

line staff and physicians are adding value each day, the leader must add value, too—and not just by meeting community leaders,

monitoring insurance reimbursement rates, and considering mergers. I learned that my primary job was to remove barriers for frontline staff so they could get their work done. My question to staff was, "What is the biggest barrier you have today to delivering patient care?" Many times the barrier was outside of their control. Sometimes it was an issue in my control, such as key doctor relationship issues or

a problem in another part of the organization that required a systemwide approach. For example, one day while visiting the intensive care unit (ICU) at one of our hospitals, I observed the nurse reaching over equipment in a dangerous way and saw that family members stood or sat cramped in a tiny space in the corner of the patient's room. We were about to take a five-year capital plan to the board of trustees that did not include ICU room renovation. After my day in the ICU, we scrapped that plan in favor of one that included funding for ICU renovations.

Humility

As leaders, we are taught to be proud of our organization and safeguard its reputation. But such pride is misplaced. I was once proud to tout the HEDIS (Healthcare Effectiveness Data and Information Set) scores achieved by ThedaCare's health plan and the organization's repeated inclu-

sion on the Thomson Reuters list of top 100 hospitals. But the fact is that health-care, no matter where delivered, is not reliable, even at the best teaching hospitals, the finest concierge healthcare clinics, or the highest-performing emergency departments. ThedaCare was no exception, as indicated by the letters I received every week for years from angry patients.

So, until our organizations deliver zero medical errors in every patient experience, we have nothing to brag about, which, admittedly, is difficult when part of a leader's job is to protect the organization's image. I once had a discussion with a famous medical center's medical director about participating in a public reporting initiative. He said, "Leaders here would never let us do that because we know some organizations in our market would score better than us and that would tarnish our image." Leaders have to decide if image is everything or if patients are more important.

Curiosity

As John Shook, former Toyota sensei (teacher) who was assigned to the Toyota—GM joint venture New United Motor Manufacturing Inc. (NUMMI) in Fremont, California, noted, Toyota leaders decided that the most important trait they were looking for in potential NUMMI leaders was a keen interest in how things worked (Shook 2008). They applied that philosophy in their hiring, and within two years, the organization had turned around the worst-performing GM plant in North America to become the most productive and profitable plant GM owned.

Curious leaders ask great questions, which is harder than one might think. Questions upset the status quo. Why do we do it this way rather than that way? How is the system working? How should

it work? These questions are based on a thirst for knowledge and can stimulate new thinking throughout the team.

Perseverance

Transforming a complex organization is hard work. Many times, I felt like the effort undertaken at ThedaCare was not worth the gain. Doctors, employees, and managers were often upset with change. I overheard one cardiologist discussing Lean initiatives in the doctors' lounge in this way: "It's raining today. We should do an improvement event to change it." This cynicism was rampant in the first few vears of ThedaCare's transformation and still exists in isolated areas. My involvement in improvement teams, going to gemba, and encouraging my team to learn the principles and practices of Lean paid off. But I and others experienced significant personal sacrifice, and we often had difficulty countering the negative reactions. The good news is that today we know Lean works in healthcare. This was not known a decade ago when we started. The question today is not "Does Lean work?" but "How do we successfully and reliably implement Lean in many types of healthcare organizations with different cultural standards?"

THE BOARD'S ROLE IN TRANSFORMATION

About two and a half years into our journey, I presented to our board of trustees the worst employee opinion scores and physician satisfaction scores in the organization's history. At about the same time, a large group of orthopedic surgeons left ThedaCare to compete with us by building their own surgery center. "It appears I am destroying the place," I told the board. "Do you want me to keep going?"

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Made up of Fortune 500 CEOs and senior executives, the ThedaCare board has always been sophisticated and adept at setting direction. At that meeting, members unanimously agreed that the Lean transformation was still on track. The fact that morale was declining indicated that we were making serious change, several members told me. They had experienced the same circumstances in their own transformations.

I cannot underestimate the importance of the board's reaction in that moment. This is usually the point—the rough patch that will look and feel different for every company—at which most Lean journeys fail. The executives lose their courage because the going gets tough. Having a knowledgeable and supportive board is critical. One way to create that knowledge is to make sure board members start attending gemba walks and meetings. Take board members to Lean hospitals that are at an advanced stage of Lean implementation, and show your board what good really looks like. It can change members' attitudes.

Conclusion

I was asked recently, "Why don't more leaders choose this transformational path?" Many leaders do not know this path is an option. I had no training in building an organization focused on continuous improvement. No classes were offered in medical school on leading continuous improvement, and no management training was available in my own organization—not even a good conference on system transformation in a medical environment. This lack of education is a big barrier for those who envision a different system for their organization. Lean is a leadership

and management system, not a project, and it takes time and dedication to learn new behaviors, principles, and tools. My hope is that this article provides a snapshot view of what this new world can look like. The hard part is yet to come—when you rise and begin the work of changing the tide. Your patients hope you make the right decision.

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