

A Vision for a Lean Hospital and Health System

From the book
***Lean Hospitals: Improving Quality, Patient Safety, and Employee
Engagement, 3rd edition***

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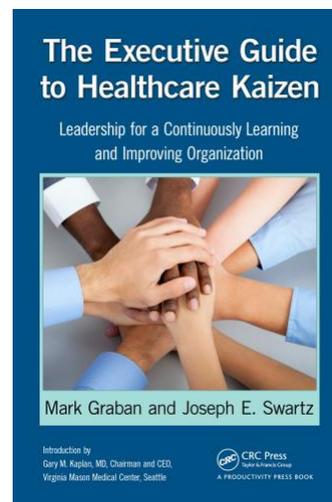
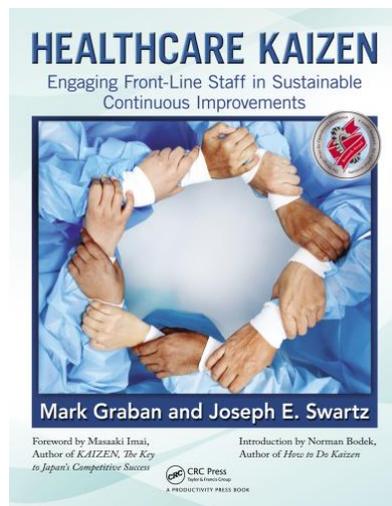
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LEAN HOSPITALS

Improving Quality, Patient Safety, and Employee Engagement

Third Edition

MARK GRABAN

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Chapter 13

A Vision for a Lean Hospital and Health System

Introduction

So far, we have seen the roots of Lean thinking: Henry Ford, W. Edwards Deming, and Toyota, among others. The core concepts, philosophies, tools, and leadership styles have been defined and introduced. We have shared real examples of health systems that have already used these methods to make improvements that matter for the patients, employees, physicians, and hospitals. The questions that are sure to follow are “How do I get there?” and “What will I look like when I’m done?”

First, there is no “done” or “there” as a final destination with Lean. There is always a problem to solve, a waste to eliminate, and a new form of value-adding work to create. After about 70 years of developing and using what we call Lean, Toyota still has waste and problems to solve. Toyota is, however, significantly better than their competitors in many ways, and they continue to improve. There is no perfectly Lean organization, so the term *Lean hospital* might really be shorthand for “a hospital that is using Lean methods in a systematic way to improve and manage.” Using the term “Lean implementation” or “Lean transformation” implies that a health system can be “done” with this work. We’re all just practicing Lean, perhaps, and we can keep improving how we improve, continuously over time.

Earlier editions of this book talked about a “Lean hospital.” In an era when independent hospitals and physician practice groups are becoming part of increasingly large integrated health systems, we have a new opportunity to define and optimize a “Lean health system” instead of just a “Lean hospital.” If patients define value as maintaining health and quality of life, a Lean health system can accomplish that goal, keeping people home instead of just treating them more safely and more efficiently.

When Is a Health System Lean?

Using the original definition of Lean from *The Machine that Changed the World*, is there a hospital anywhere that operates with half of everything, compared to other hospitals? A Lean hospital in those terms would have, among other measures:

- Half the errors
- Half the infections
- Half the patient harm
- Half the waiting time
- Half the length of stay
- Half the head count (or more likely, half the employee turnover)
- Half the cost
- Half the space
- Half the complaints from patients and physicians

Health systems might not improve to a Toyota-like point of being literally twice as good as their competitors (that gap has been closed by their competitors over time, anyway). That said, we should set the bar high for our organization. History has shown that Lean concepts allow breakthrough thinking, leading to dramatically better performance, rather than modest incremental gains, such as the 95% reduction in central-line associated bloodstream infections at Allegheny General Hospital.¹ ThedaCare and Gundersen Lutheran (Wisconsin) have each demonstrated 25% to 30% lower costs for inpatients and cardiac surgery patients.^{2,3} Even if we had half the defects or half the patient injuries as another hospital, is that good enough? No, but we have to strive for perfection, even though absolute perfection might seem difficult or impossible.

We might even reach outside the boundaries of the hospitals, looking to improve the larger healthcare system. Lean health systems would work to reduce emergency department visits by half by better coordinating the entire continuum of care in their communities. Group Health (Washington) reduced emergency visits of its members by 29% through its patient-centered medical home approach, based on Lean principles.⁴ Lean hospitals can also work to prevent readmissions, as did UPMC St. Margaret Hospital (Pennsylvania), which reduced readmission rates for chronic obstructive pulmonary disease (COPD) by 48%.⁵

Health systems are getting results with Lean, in hospitals, surgery centers, specialty clinics, and primary care offices. The challenge now is to spread those ideas so every site that delivers healthcare services can improve. We should learn from the leaders and the example they are setting, adapting their methods to our own health system or location. We can also share ideas and collaborate with others who are learning as they go. An example of this is the Healthcare Value Network, a joint effort of the Lean Enterprise Institute and the ThedaCare Center for Healthcare Value, where over 60 organizations across North America share and learn from each other in a collaborative environment. The Pittsburgh Regional Health Initiative, initially led by former Alcoa CEO and United States Treasury Secretary Paul O'Neill, is an example of a regional effort; it is hoped it will be duplicated in other regions, states, or countries. Within Lean and process improvement circles, groups have formed for individuals and health systems to learn from each other, including the Massachusetts Hospital Lean Network, the Bay Area Process Improvement Network (San Francisco and Silicon Valley, California), and a nascent group that bridges Austin and San Antonio, Texas.

What Would a Lean Health System Look Like?

Having a chance to tour or walk through a hospital or clinic that has embraced Lean, you might look for visible Lean methods in use. Visible indicators might include 5S and visual controls, marking and labeling where items are supposed to be stored. You might also see standardized work or *kanban* cards or bins posted and in use. Employee *kaizen* ideas, performance measures, or A3 reports might be displayed on walls. The physical structure and layout might be compact, logical, highly visual, and neatly organized. A Lean hospital building might be new and architecturally striking, with thoughtful design elements improving the efficiency and quality of care. Or, it might be an older, humble building that is full of Lean spirit and practices that make all the difference.

Much of what makes a Lean health system, however, cannot be directly observed during a tour. Can we directly observe the thought processes and mindsets of the organization? Can we see how people solve problems? Given enough time, we might be able to directly observe supervisors interacting with their employees, but we usually do not get that chance on a tour. Toyota has been very open in letting other manufacturers, even direct competitors, tour their factories. Other companies have typically copied the tools and the visible methods, often coming away not understanding the true nature of the Toyota Production System.⁶

What Would a Patient Experience in a Lean Health System?

A good exercise might be to think through what the perfect patient care experience would look like and how it would feel. For example, for an outpatient surgery patient, what would be an experience of perfect service and perfect care? This might seem similar to the creation of an ideal state version of a future-state value stream map. We can challenge ourselves on how things should work to set goals for our Lean improvements.

The patient would be able to promptly get an appointment or procedure scheduled, with the health system doing everything it can to minimize delay by increasing capacity and throughput with low-cost process improvements. Having the right sized capacity means that patients are more likely to get the right care in the right place at the right time. The hospital provides a clear estimate of total expected cost for the payer and out-of-pocket costs for the patient (if applicable), relying on transparent standard prices for routine procedures and not asking the patient to pay for the results of any errors or process problems.

The patient's Lean experience begins before arrival, which can include presurgical steps such as scheduling, surgical consults, and making sure everything is communicated properly (such as the need to arrive for labs or presurgical fasting) to avoid miscommunications, rework, or delays. Think through the patient experience from the time the patient drives up to the hospital. Is everything clearly labeled for where to park and where to come for registration? Is the patient able to get registered without repeating the same information to multiple people? Is the patient able to avoid excessive delays before the procedure starts?

From a clinical and surgical standpoint, does the hospital ensure that all proper preparation and quality steps are followed before the procedure, including confirmation of the patient identity, marking of the site, and the time-out of the universal protocol? In a Lean hospital, the so-called universal protocol is actually universally followed, to the spirit of the guidelines rather than just going through the motions. How is the process error proofed to protect the patient from harm? Are all of the participants (nurses, physicians, anesthesiologists, etc.) aware of their role, interactions, and standardized work? Is there a team environment in which everyone is focused on the

patient instead of hierarchy and titles? Are clinicians following evidence-based practices that are best for the patient? A Lean hospital would have good answers to these questions and would, additionally, make sure all instruments or scopes have been properly sterilized because processes are always followed as the result of effective training and supervision.

Beyond the surgery itself, what service is provided to any family or loved ones who are waiting? Are parents of a child allowed to stay with the child as long as possible and then be there when they wake up? Are they kept informed of the patient's status to ease their worrying? Is the patient able to get through the postoperative recovery area and discharged without any avoidable delays beyond the required recovery time? Beyond avoiding delays, a Lean hospital ensures that patients are not rushed home too quickly for any reason. Has clear and unambiguous communication been made about the patient's postoperative responsibilities to help in recovery and to prevent infection? Have appointments been scheduled for postoperative therapies and follow-up? Does the patient receive a billing statement that is 100% accurate and easy to comprehend (again, if applicable)?

Whatever vision you create for perfect care, be sure to include both the clinical care and the service aspects of the patient's experience. Starting with fresh eyes and thinking toward perfection will drive better improvements than looking for incremental improvements over today's practices and waste.

Beyond day surgery patients, what would ideal care feel like for patients arriving in the emergency room or staying in the hospital for a few days? Patients, in any Lean setting, should experience minimal delays, or at least fewer delays than they are accustomed to. In fact, many aspects of the patient journey through a Lean health system might seem unusual or surprising as things are improved and reinvented. Talk with your colleagues, leaders, and employees to create a vision of what a patient would experience (or not experience) in a Lean health system. How can you measure or otherwise gauge progress toward those goals?

What Would It Be Like to Work in a Lean Health System?

Working in a Lean hospital or clinic should be a positive experience for employees, leaders, and physicians. After seeing many cases of morale and employee engagement improvement with Lean, employees should not want to leave a Lean hospital to work someplace else. In some cases, work life has become so fundamentally different (and better) that employees who have left to go to a traditional health system have come running back, no longer able to (or wanting to) operate in a traditional non-Lean environment and culture.

Employees in a Lean environment should expect, among other things,

- To be listened to by supervisors and other leaders, to have their ideas solicited, to have the freedom to make improvements for the betterment of the system, and to be treated with respect, repaying that respect with a commitment to help the organization improve
- To have managers and leaders who are skilled teachers and coaches of Lean and problem-solving methods and who invest a large portion of their time in developing these skills and abilities with their own staff
- To be provided with everything they need to do their work to the highest level of quality, including the proper equipment (in working condition), the right space, staffing levels, training, and management support
- To focus on holistic patient needs instead of rushing through a list of tasks
- To be properly trained on how to use new technologies and how to follow new policies and procedures, rather than be expected to figure things out for themselves

- To develop the discipline to work within a system, but also to maintain the creativity required for *kaizen* and more radical improvement efforts
- To not be overburdened with more work than can be done in a high-quality manner or to be standing around with nothing to do (and not sent home early because the health system is more interested in saving money in the short term than they are in engaging and developing their employees)
- To have the time to take breaks and have a proper meal during their shift
- To be able to speak up and ask for help if they are overburdened or have questions and to get a prompt, helpful response from management
- To be challenged to grow, personally and professionally, always striving to learn and improve personal technical, leadership, and problem-solving skills
- To not be blamed for systemic problems; to not be set up for failure
- To feel a sense of pride for contributing to a high-performance organization, for understanding their personal roles and how their work has an impact on patients, coworkers, the hospital's bottom line, and the community

Again, Lean is not a system that is soft on people or an environment where everyone is superficially nice to each other, avoiding conflict. The Lean culture of “respect for people” also demands a sense of responsibility, as true respect challenges employees, and each other, to get better for the sake of the patients and the organization.

Managers and leaders could expect an environment in which the direction and goals from senior leadership are clear and actionable. Managers at all levels would have a voice in shaping the strategy of the hospital, also working with their employees to develop improvement plans to meet these true north goals. Managers could expect that staff members will be open about problems, waste, and near misses, creating an open blame-free environment for improvement. Managers and leaders in a Lean environment would expect to have goals that are not suboptimizing, allowing them to focus on goals other than meeting their budget.

How Would We Describe a Lean Health System?

To create a vision, can we define in aggregate how to describe a prototype Lean hospital or health system? One good starting point might be for a hospital to follow the general 14 principles of *The Toyota Way*.⁷ A Lean hospital might also be characterized by the following traits: strategy and management system, patients, employees, waste and *kaizen*, and technology and infrastructure.

Strategy and Management System

A Lean health system and its leaders have a clear understanding of *why* Lean is a necessary methodology and how Lean will not just improve key measures, but also help the organization be more competitive and successful over time.

A Lean health system has leaders who actively seek to learn and apply Lean lessons from within and outside their organization and industry, often receiving assistance or mentoring from manufacturing leaders who are on their board or in their community.

A Lean health system has goals and improvement efforts that are tightly integrated with strategy and vision, moving beyond the isolated use of tools to the engagement of all employees and leaders in the building of a Lean culture. The Lean strategy and the health system strategy

are one and the same through the strategy deployment process, being communicated widely and consistently from the corporate executive suite to the frontline employees and physicians.

A Lean health system realizes that success comes not only from technology and clinical excellence, but also through employee engagement and operational excellence. Lean hospitals help stakeholders understand that spending money on new technology and new space is not the only way to demonstrate a commitment to serving the community.

A Lean health system has a leadership method and model that is taught to supervisors and managers and is practiced by all leaders. Lean behaviors, such as going to the *gemba*, rounding and auditing the process, collaborating on improvement efforts, and being a servant leader, are used as criteria for employee and leader selection, performance reviews, and advancement.

A Lean health system is not overly dependent upon a few key leaders or other individuals for lasting improvement and culture change. Leaders contribute through strengthening the organization as a whole as compared with striving for individual achievement.

A Lean health system strives for improvement in every area and not just where there are patient interactions. Support and administrative areas including human resources, accounting, finance, and community relations will all be focused on applying Lean methodologies to their areas.

A Lean health system creates collaborative relationships for all partners and stakeholders, including physicians, vendors, and payers. Patient safety practices and quality data are shared openly with other hospitals and the community, rather than using those methods as a source of competitive advantage.

A Lean health system works diligently to reduce costs so that they can be profitable at the lowest levels of reimbursement, rather than complaining that reimbursements are too low.

A Lean health system competes vigorously to attract new business through its superior quality and value, signing “centers of excellence” contracts and attracting patients and payers from long distances who appreciate the quality and value provided.

A Lean health system has a small, centralized group that maintains consistent Lean practices and training. This group coaches leaders and staff to drive improvements and to own their processes, rather than doing it for them. This central team, along with senior leadership, continually mentors and develops managers in Lean behaviors and management philosophies.

A Lean health system has specific leaders who are responsible for the overall flow, management, and improvement of key patient care value streams.

A Lean health system determines proper staffing levels based on patient volumes, actual workloads, and the time required to do work in a safe, high-quality way. Best attempts are made to match staffing to volume in different time periods. Reliance on benchmarking or budget constraints as a primary staffing driver decreases.

A Lean health system sees problems as opportunities for learning and considers proficiency with the learning and problem solving as key competitive advantages in fast-moving times.

A Lean health system operates as a cohesive system rather than being a collection of independent hospitals and clinics. Staff and leaders collaborate and learn across sites, solving problems together and sharing best practices as appropriate. Patient flow is optimized across sites, with patients being transferred as necessary to meet their needs, rather than a particular hospital worrying about losing reimbursement.

Patients

A Lean hospital is passionately and meticulously focused on the patients, families, and guests, aiming for perfect, harm-free care, while respecting patients and their time. The patient comes

first in all activities, decisions, and priorities. Leadership helps create that expectation with all stakeholders.

A Lean hospital involves patients, as the ultimate customers, and their loved ones in process improvement efforts. New designs and processes are tested to make sure they meet patient needs. A Lean hospital understands patient needs by asking them, rather than assuming, and realizes different patients have different needs and wants.

A Lean hospital provides excellent service in addition to the best clinical care. The patient is surrounded by a warm, caring environment in which staff and clinicians have the time to fully attend to their physical and emotional needs.

A Lean hospital asks patients for real-time feedback rather than just relying on formal surveys. Feedback is used to improve processes and prevent future patient satisfaction problems, not just to make the immediate patient happier.

A Lean hospital sets goals of zero preventable errors that cause patient harm, as any other goal is unacceptable. The staff and leaders work tirelessly toward that goal through standardized work, root cause problem solving, and error proofing, rather than relying on individuals to be careful or relying on inspection. When preventable errors occur, patients and payers are not charged for the work required as a result, and employees are not blamed.

A Lean hospital minimizes waiting times for patients, using scheduling practices that respect patients' time. A Lean hospital works tirelessly to improve flow and reduce waiting times, both for appointments and during visits and episodes of care. A Lean hospital has discharge processes that smoothly get the patient home without delay once they are medically ready to leave.

Employees

A Lean health system recognizes that employees are the true source of value for patients and the hospital, rather than viewing them strictly as a cost to be reduced. Top leadership makes a consistent commitment to all employees that Lean improvements will not lead to layoffs and, instead, lead to new opportunities and growth for people.

A Lean health system helps employees understand that not all activity is value-added. Rather than defining waste as being "our job," everybody works to eliminate it so more time can be focused on the patients.

A Lean health system fully engages every employee in improving their work, supporting the innate desire to provide perfect care to patients. Leaders help employees understand how their work fits in to the value stream and work collaboratively with them in *kaizen*. Employees are not sent home every time census drops, as that is seen as an opportunity for *kaizen*.

A Lean health system does not overburden employees with more work than can be done in a high-quality manner or pressure people to work harder or be more careful as a means to quality, safety, or efficiency.

Waste and Kaizen

A Lean hospital recognizes that there is waste in every process, focusing on continuous improvement and root cause problem solving instead of workarounds and firefighting. Individuals (employees or leaders) are not blamed for the waste or problems.

A Lean hospital proactively identifies and fixes problems and reduces waste, rather than being strictly reactive. Employees are encouraged to speak up, expose waste, and make improvements to the system, instead of hiding problems and making things look good.

A Lean hospital breaks down departmental silos to focus on improving care and preventing delays for patients, allowing employees to feel pride in their work, by being able to cooperate across value streams instead of suboptimizing their own area.

A Lean hospital values the judicious standardization of work methods in the name of improving safety, quality, and productivity, rather than allowing people to develop their own different methods for doing the same work or precluding one patient from the best-identified method of care.

A Lean hospital is never satisfied with being better than average, being in a top percentile, or winning awards; it always strives to get better. Perfection is a difficult goal to reach, but it is the only acceptable goal to a Lean hospital.

Technology and Infrastructure

A Lean hospital is physically designed to minimize waste for patients and for all who work inside its walls. It is designed with direct input from staff and patients to support efficient workflows and value streams, rather than forcing departments and employees to adjust their work to the space. A Lean hospital focuses more on what is functional and effective for the patients and staff rather than glossing over bad processes with marble entryways and lobby fountains. Lean hospitals use collaborative and iterative design and build practices like Lean design, 3P, and integrated project delivery.

A Lean hospital has process technology, automation, and information systems that solve a real problem, making work less difficult or less error prone (or both). The hospital does not install automation or new systems for the sake of having new systems. Employees and physicians are deeply involved, early on and throughout the process, in the selection of technologies that meet their needs. A Lean hospital takes the time to properly train all stakeholders in new technologies, ensuring they can be used most effectively rather than blaming individuals for not using the systems.

In Conclusion

In 2001, the healthcare industry started to say, “We want to see a Toyota in healthcare.”⁸ At that point, there was no clear leader in terms of a hospital that had dramatically different processes or results from the others. Even if some clear leaders in Lean healthcare are becoming widely known, Lean success stories can be found at hundreds of hospitals around the world. It is more likely that, over time, a top tier of hospitals will emerge—hospitals with results that are much better than the industry as a whole. Lean advocates would assume that many in this top tier will be the ones who are most effectively using Lean principles. This top tier will continue to learn from each other, improving continually. The hospitals outside that top tier will likely fall further and further behind—some will likely be forced to close or will be pressured into mergers. We all have the opportunity to aim high, working hard every day to reduce waste, respect our people, and provide better and better care for our patients, through Lean methods. Let’s seize that opportunity.

Points for Group Discussion

- What core measures can we improve by half in our organization?
- How might people react to a goal of “zero” or “perfection”?

- How are some of these patient-centered goals complicated by the payer system and financial incentives in our country?
- What is your own long-reaching vision for a Lean hospital, within your department, your hospital, and more broadly?

Notes

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