



## Lean: The Red Thread of Cost Control

How healthcare providers can do more with less through continuous improvement



### Key Insights

- Many health systems are adopting lean practices to eliminate waste and improve quality of care while controlling costs.
- As speed to market becomes more important for health systems, some are applying lean practices to planning environments, thus reducing waste, increasing accuracy, and getting to completion faster.
- We integrate our deep knowledge and experience with lean practices to help health systems maximize their investment, plan ahead, continuously improve, and enable change.

Healthcare executives have little need to be reminded of the challenges facing their industry. From the PwC Health Research Institute's annual report<sup>1</sup> to the Advisory Board's "Healthcare Industry Trends 2018"<sup>2</sup>, these challenges are well-known. At the risk of oversimplifying, it comes down to a restatement of the Triple Aim: provide state-of-the-art care at a time when costs are rising right along with patients' expectations.

According to one survey<sup>3</sup>, 77 percent of healthcare leaders are addressing these challenges through some kind of continuous improvement initiative. Such initiatives focus on reducing human struggle in the workplace. The goal is to achieve better operational efficiency and improved patient and staff experience, whether that's in hospitals, ambulatory surgical centers, urgent care clinics, or physician offices. The overall results can be significant. Systems like Virginia Mason Medical Center in Seattle, Washington, credit



their lean efforts with creating more capacity in existing programs and processes and avoiding planned construction and equipment purchases, saving them millions of dollars.’

## Lean in Your Genes

Japanese car maker Toyota is widely hailed as a leader in the area of lean management and production. The underlying philosophy that provides the foundation of the Toyota Production System is the concept of continuous improvement, or *kaizen*. In healthcare environments, embracing lean practices such as continuous improvement helps create maximum value for patients by reducing waste. It focuses on how efficiently resources are being used and asks in every process, “What value is being added for the customer?” Everyone in a lean organization commits to continually making improvements in processes to eliminate waste, improve their work, and deliver better care every day.

Health systems that find success applying lean principles do so by adopting lean as a business model—a philosophy that finds various means of expression throughout their culture. These health systems make a commitment to continuous improvement as part of their everyday activities. They also take an expansive view beyond process improvements to fully embrace the value of an adaptive environment—one that is designed from the beginning to accommodate change.

The experiences of Herman Miller Healthcare experts working with health systems and their design partners throughout North America indicate that environments planned from the outset around lean philosophies yield results that are predictable and reliable. They reach completion faster and with less cost than with conventional project approaches. And when outfitted with adaptive solutions, these environments more fully realize the benefits of lean practices because they enable change without a loss of investment, time, or care quality.

## How Lean Facilities Open Faster

With an emphasis on reaching new markets by building and equipping outpatient clinics and freestanding service line facilities, health systems are finding the need for speed to market is greater than ever before. Lean practices, or continuous improvement, can become the basis for providing healthcare organizations with the speed they need in today’s marketplace.

For lean practices to contribute to a speed-to-market model, a health system must embed these principles long before it realizes its vision for the built environment. This involves a collaborative, integrated design approach based on lean principles that occurs at the upfront stages of project planning. The focus is on the early design selection decisions.

Connecting the activities of caregivers to space planning and design achieves better workflow. Integrating those who have the most knowledge and experience of programs and processes into the design and construction team at the start of the design process reduces rework and improves communication and coordination among trades.

An integrated design approach also delivers the best value by removing wasted time from the process of construction. The strategy for implementing integrated design is to select partners with the largest breadth of offer who themselves use lean and have a proven track record of performance.

A broad offering of “front-door-to-back-door” solutions from a lean supplier reduces fragmentation and inefficiencies by taking a holistic approach to order fulfillment. By cutting waste, increasing efficiencies, and continuously improving, these suppliers can deliver exactly what is ordered and tell health systems precisely when their shipment will arrive. This accuracy has obvious benefits in coordinating trades and smoothing installation, both of which remove waste from the building process. It also contributes to reliable budgeting, consistent quality, cohesive aesthetics, and uniform warranty and service.



## Lean Systems Embrace Change

The ongoing ability to change is fundamental for health systems that embrace lean practices. Health systems meticulously plan their new facilities. Those that take a lean approach are able to make changes as soon as they move in—or at least as soon as they identify ways to eliminate waste and improve the quality of care. Because movable modular systems are adaptive, they allow for work process changes, from rearranging drawers for better access to supplies to altering the layout of an area or reconfiguring entire departments.

An adaptive environment can also help control initial costs. The recent experience of a large, for-profit health system is instructive. Its goal was to take waste out of the delivery and operation of new, freestanding Emergency Departments (EDs). Planners at the health system developed a standard, using movable modular systems for most of the interiors instead of custom millwork. This reduced initial casework costs by 27 percent.

Workplace researcher and designer Robert Propst defined several criteria for adaptive spaces.<sup>9</sup> As he noted, “Human organizations have always been natural places of change, reflecting the organic nature of life.” Continuous improvement initiatives recognize the organic nature of work life, which is why Propst emphasized that environments should be “forgiving.”

An environment that is forgiving allows people to accommodate change as it occurs without imposing significant costs or delays. Few, if any, pieces are permanently placed. People can make changes for continuous improvement immediately upon occupancy—or any time in the future. Thus, the success of lean initiatives, particularly in healthcare, is directly related to the ability of staff to change the physical environment in ways that add value, save time, create efficiency, and remove waste.

For example, the leaders at *Bluewater Health* in Ontario garnered immediate results when they chose to implement adaptive solutions in 80 percent of their facility renovations. Following the installation, shifting needs necessitated some changes to the space. Because Bluewater chose adaptive solutions as opposed to traditional fixed architecture, the reconfiguration was done at a 74 percent cost savings.<sup>4</sup> Adaptive solutions also deliver impressive returns in terms of total cost of ownership. Modular movable systems can be depreciated over 7 years as personal property, which provides a tax advantage, further reducing costs over that period by more than 30 percent.

## Lean Leadership in Healthcare

For decades, Herman Miller has worked with health organizations to share our experiences on using lean practices to control costs and improve results. This expertise comes from our longstanding relationship with the Toyota Supplier Support Center, a non-profit organization affiliated with Toyota whose mission is to share the Toyota Production System and its benefits with organizations interested in becoming lean.

Working closely with Toyota, we developed our version of the Toyota Production System, called the Herman Miller Performance System (HMPS), to extend a continuous improvement mindset to all aspects of our business. The experience we've gained through decades of work in this area allows us to assist customers in their continuous improvement efforts as well. An example of this assistance occurred at *Spectrum Health Medical Group* in Michigan. We worked with Spectrum staff to observe clinical workflows and apply lean thinking to creative solutions. Results included decreased distraction and smoother patient and staff traffic flows. On-time rooming improved from 30 to 70 percent.\*

Today, we integrate our deep knowledge and experience with lean practices to help our customers maximize their results, plan ahead, and continuously improve to enable positive change. To learn more, please visit [hermanmiller.com](http://hermanmiller.com) or connect with your local Herman Miller representative about implementing lean practices for your healthcare system.

1. PwC Health Institute, "Top Industry Issues of 2018: A Year for Resilience Amid Uncertainty," PwC Health Institute, 2018, accessed March 2018, <https://www.pwc.com/us/en/health-industries/assets/pwc-health-research-institute-top-health-industry-issues-of-2018-report.pdf>.
2. Market Innovation Center, "Healthcare Industry Trends 2018," The Advisory Board Company, 2018.
3. Thomas Rundell, Janet Blodgett, and Stephen Shortell, "Adoption and Implementation of Lean Philosophies, Practices and Tools in U.S. Hospitals," Center for Lean Engagement and Research in Healthcare (CLEAR), School of Public Health, University of California, Berkeley, September 11, 2017, accessed March 2018, <http://www.clear.berkeley.edu/wp-content/uploads/2017/09/Rundall-Stanford-Lean-Survey-Presentation-9.27.2017-FINALc.pdf>.
4. Institute for Healthcare Improvement, "Going Lean in Healthcare," IHI Innovation Series white paper, 2005, accessed March 2018, <http://www.ihl.org/resources/Pages/IHIWhitePapers/GoingLeaninHealthCare.aspx>.
5. Robert Propst, *The Office: A Facility Based on Change* (Elmhurst, IL: The Business Press, 1968).
6. Herman Miller, Inc., "Bluewater Health," Herman Miller case study, accessed March 2018, <http://www.hermanmiller.com/research/case-studies/bluewater-health.html>.
7. Curt Wozniak, "Work in Progress: How Our Lean Manufacturing Approach Affects Everything We Do," Herman Miller Why Magazine, accessed March 2018, <https://www.hermanmiller.com/stories/why-magazine/work-in-process/>.
8. Herman Miller, "Spectrum Health Medical Group, Academic General Pediatrics Clinic: How keen observation became a cure for improving work flow in this clinic," Herman Miller Case Study, accessed March 2018, <https://www.hermanmiller.com/research/categories/case-studies/spectrum-health-medical-group-academic-general-pediatrics-clinic/>.