

Going Lean in Health Care

Lean management principles have been used effectively in manufacturing companies for decades, particularly in Japan. The Institute for Healthcare Improvement believes that lean principles can be — indeed, already are being — successfully applied to the delivery of health care.

Lean thinking begins with driving out waste so that all work adds value and serves the customer's needs. Identifying value-added and non-value-added steps in every process is the beginning of the journey toward lean operations.

In order for lean principles to take root, leaders must first work to create an organizational culture that is receptive to lean thinking. The commitment to lean must start at the very top of the organization, and all staff should be involved in helping to redesign processes to improve flow and reduce waste.

Although health care differs in many ways from manufacturing, there are also surprising similarities: Whether building a car or providing health care for a patient, workers must rely on multiple, complex processes to accomplish their tasks and provide value to the customer or patient. Waste — of money, time, supplies, or good will — decreases value.

The concept called “lean management” or “lean thinking” is most commonly associated with Japanese manufacturing, particularly the Toyota Production System (TPS). Much of the TPS way of thinking is based on the work of quality guru W. Edwards Deming, who taught, among other things, that managers should stop depending on mass inspection to achieve quality and, instead, focus on improving the production process and building quality into the product in the first place.

So, what is meant by “lean thinking”? Simply put, lean means using less to do more. Lean thinking is not typically associated with health care, where waste — of time, money, supplies, and good will — is a common problem. But the principles of lean management can, in fact, work in health care in much the same way they do in other industries.

Lean thinking is not a manufacturing tactic or a cost-reduction program, but a management strategy that is applicable to all organizations because it has to do with improving processes. All organizations — including health care organizations — are composed of a series of processes, or sets of actions intended to create value for those who use or depend on them (customers/patients). The core idea of lean involves determining the value of any given process by distinguishing value added steps from non-value-added steps, and eliminating waste (or muda in Japanese) so that ultimately every step adds value to the process.

To maximize value and eliminate waste, leaders in health care, as in other organizations, must evaluate processes by accurately specifying the value desired by the user; identifying every step in the process (or “value stream,” in the language of lean) and eliminating non-value-added steps; and making value flow from beginning to end based on the pull — the expressed needs — of the customer/patient. When applied rigorously and throughout an entire organization, lean principles can have a dramatic effect on productivity, cost, and quality.

Agreement is growing among health care leaders that lean principles can reduce the waste that is pervasive in the US health care system. The Institute for Healthcare Improvement believes that adoption of lean management strategies — while not a simple task — can help health care organizations improve processes and outcomes, reduce cost, and increase satisfaction among patients, providers and staff.

The Power of Lean in Health Care;

Virginia Mason Medical Center in Seattle, Washington, has been using lean management principles since 2002. By working to eliminate waste, Virginia Mason created more capacity in existing programs and practices so that planned expansions were scrapped, saving significant capital expenses: \$1 million for an additional hyperbaric chamber that was no longer needed; \$1 to \$3 million for endoscopy suites that no longer needed to be relocated; \$6 million for new surgery suites that were no longer necessary.

Despite a “no-layoff policy,” a key tenet of lean management, staffing trends at Virginia Mason show a decrease in 2003 and 2004, after six years of annual increases in the number of full-time equivalents (FTEs). Using lean principles, staff, providers and patients have continuously improved or redesigned processes to eliminate waste, requiring fewer staff members and less rework, and resulting in better quality. Consequently, as employees retire or leave for other reasons, improved productivity allows for them not to be replaced.

All 5,000 Virginia Mason employees are required to attend an “Introduction to Lean” course, and many have participated in Rapid Process Improvement Weeks (RPIW). RPIWs are intensive weeklong sessions in which teams analyze processes and propose, test, and implement improvements.

The results from the 175 RPIWs

Direct Labor/Productivity Improved 45–75%

Cost Reduced 25–55%

Throughput/Flow Increased 60–90%

Quality (Defects/Scrap) Reduced 50–90%

Inventory Reduced 60–90%

Space Reduced 35–50%

Lead Time Reduced 50–90%

*Summarized results,

Source: Virginia Mason Medical Center

How did Virginia Mason achieve these striking results?

Key Concepts in Lean Thinking: Lessons from the Experience in Industry

Virginia Mason’s achievements were based on lean thinking, the major precepts of which are as follows:

Leadership: Introducing lean thinking in an organization is, in the words of those who have done it, not for the faint of heart. It cannot be done piecemeal but must be a whole-system strategy. There is no single “silver bullet” solution such as a new computer system or automated equipment that will achieve the same results. And it cannot be done only by middle managers or frontline workers. Those at the very top of the organization must lead it.

Implementing lean thinking requires major change management throughout an entire organization, which can be traumatic and difficult. Strong commitment and inspiring leadership from senior leaders are essential to the success of an effort this challenging. The CEO must be a vocal, visible champion of lean management, create an environment where it is permissible to fail, set stretch goals, and encourage “leaps of faith.” A senior management team that is aligned in its vision and understanding of lean is a critical foundation for “going lean.”

Culture: A lean culture is the backdrop against which lean tools and techniques are implemented. That culture differs in some significant ways from a traditional culture in business, as well as in health care. An organization’s culture is the set of values and beliefs that cause people to behave in certain ways. When they behave that way and get the results they expect, it reinforces those values and beliefs. This self-reinforcing cycle creates a culture.

Leaders who wish to change their organizational culture cannot do so by edict. They must intervene and require people to behave differently, allowing them to experience a better set of results. As this

process is repeated, a different set of values and beliefs — a new culture — will evolve. One of the challenges of implementing lean in health care is that it requires people to identify waste in the work in which they are so invested. All workers want to feel their work is valuable, perhaps most especially health care workers. Recognizing that much about their daily tasks is wasteful and does not add value can be difficult for health care professionals. A nurse who is hunting for supplies is doing it to serve the needs of patients. Nurses may not see this as wasted time, and may not stop to wonder why those supplies aren't where they need them every time they need them. But if the supplies were always readily available; the time nurses spend hunting for them would instead be devoted to something more appropriate to their skills and expertise.

To help staff see and embrace the promise of lean, leaders must create a clear vision statement that guides people to make the right choices. They must evaluate the organizational structure and work to flatten it, eliminating hierarchical layers and organizing staff into operational teams based on products or services.

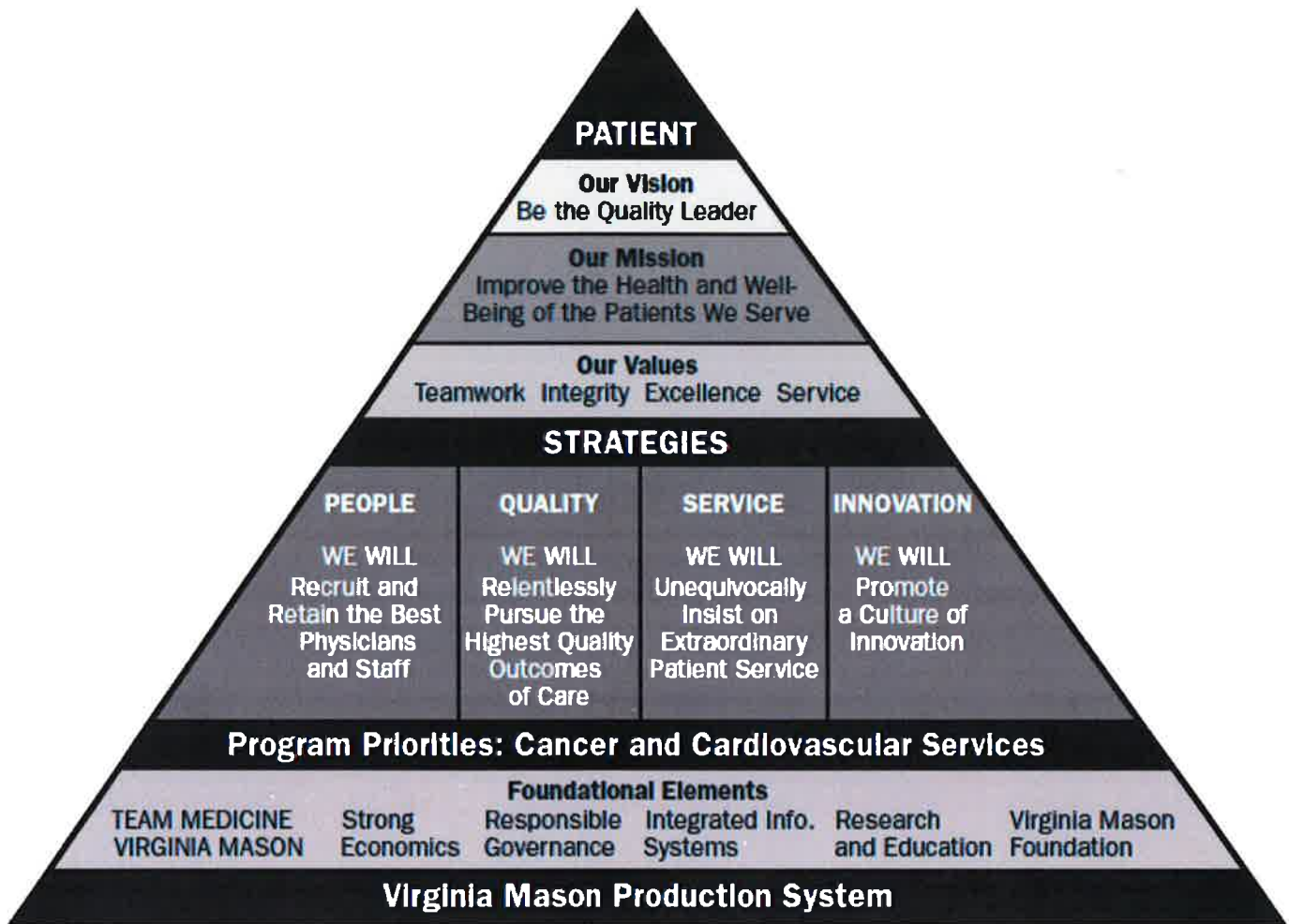
Process: A process is a set of actions or steps, each of which must be accomplished properly in the proper sequence at the proper time to create value for a customer or patient. Primary processes serve the external customer (in health care, patients and their families). Internal processes serve internal customers/staff in support of the primary process. Primary processes are easier to see, but internal processes are necessary to create value in the primary process.

Compared to other industries, health care has been slow to identify who the customer really is. Because of the complexity of the health care system, internal customers — physicians, hospitals, insurers, government, payers — have often driven processes. It is critically important that value be defined by the primary customer: the patient.

A perfect process creates precisely the right value for the customer. In a perfect process, every step is valuable (creates value for the customer), capable (produces a good result every time), available (produces the desired output, not just the desired quality, every time), adequate (does not cause delay), flexible, and linked by continuous flow. Failure in any of these dimensions produces some type of waste. The Toyota Production System (TPS) identifies seven categories of waste: overproduction, waiting, transporting, processing, inventory, motion, and correction.

A perfect process not only creates value, but it is also satisfying for people to perform, managers to manage, and customers to experience.

The Virginia Mason Medical Center Strategic Plan



Source: Virginia Mason Medical Center



LEAN OVERVIEW SERIES

Lean 5S Workplace Organization

Lean 5s is a lifestyle change. It's an idea that reshapes how you think about an organization and provides a foundation for significant improvement. It's a great way to change how people approach their daily work, the workplace and each other.

Lean Manufacturing

Continuous improvement, also known as kaizen, is arguably the most critical of the lean manufacturing principles. It lends itself to positive change for your company and employees. The concept behind continuous improvement is that changes are made and continually improved upon. Although perfection will never be achieved, the goal is to continue reaching for incremental small improvements. Training and a fresh eyes approach are two of the key elements toward success.

Lean Office Overview

Lean Office is a strategic business approach to improving the administrative functions associated with running a business. Lean provides improvement solutions for administrative processes that have an impact on every system, process, employee, and customer.

Value Stream Mapping Overview

Value Stream Mapping is a tool that helps you to see and understand the flow of material and information as a product or service makes its way through the value stream. A value stream map considers not only the activity of the product, but the management and information systems that support the basic process. This is especially helpful when working to reduce cycle time, it provides insight into the decision making flow in addition to the process flow.