

New Hampshire In Focus

by Matt Morrisette and Karen Reed **Health Care Operations Must Be 'Lean' To Survive**

There is a strategy called Lean Healthcare that stands out as one of the most powerful and practical improvement solutions available today. Lean Healthcare evolved from the legendary Toyota Production System (TPS) that for decades has proven and refined the powerful Lean tools of today.

What can health care learn from the most profitable automobile manufacturer in the world, with \$20 to \$30 billion in cash on hand? They have the same front-line employees that crave practical tools and empowered teams to get the job done. What is unique in health care though, is its sensitivity in telling a patient to wait, or "forcing" them into the system. Either decision has consequences that production environments will never feel.

The parallel analogy in production environments is questioning whether to start a new product (that they may, or may not, need) or waiting until the "right" time to start its production. Both industries strive daily for this crystal ball to aid in making the right decision.

The challenge in understanding Lean thinking is that it means abandoning old ideas about economies of scale and mass production. The old ideas of "push" systems were built around projected customer demand and forcing high equipment utilization. In Lean, quality, productivity, and low cost come from "pull" systems that produce small quantities from start to finish without any piles of partially finished goods. Being Lean in health care operations takes a shift to focusing on continuous flow of the patient from admission to discharge, ignoring traditional boundaries, and realigning the work flow to eliminate delay, rework, and waste.

SNHMC utilizing a Lean tool

Southern New Hampshire Medical Center in Nashua, NH, is using one Lean tool: value stream mapping in Radiology. Value streams are determined by taking like service families – unscheduled and scheduled X-rays, for example – that use similar resources like equipment, practitioners, and materials. Those resources are grouped to maximize potential to serve that value stream every hour of the day.

The key to sustaining Radiology's Lean culture under an ever-changing patient demand is to have daily huddle meetings that will plan for scheduled and unscheduled patient demand, and implement flex plans based on the day's resource constraints. At the same time, a Lean team will identify areas of opportunity to improve by using another Lean tool called a Kaizen event, which is an empowered team that implements ideas immediately (not in weeks or months).

Providing value and no waste

Lean Healthcare is defined as a strategy that provides value and no waste to each patient obtaining health care services. It is a top-down and bottom-up comprehensive strategy with two essential constructs that form a lean health care enterprise (LHE). The first construct is the “dashboard” or LPMS (lean performance management system). The dashboard is your balanced scorecard, and tracks savings and improving value in each department deploying projects. The second construct relates to “drivers,” which are essentially the tools, techniques, and methods that teams and individuals use to implement and sustain change.

The key drivers are: value stream mapping (identifying like service families); mistake proofing (called poke-a-yoke); demand smoothing (changing scheduling to balance resources); 5S (separate, sort, shine, standardize, and sustain); SMED (single minute room/bed exchange); POUS (point of use storage); Kanban (visual signals); and standardized work (line balancing).

Another Lean Healthcare tool a Rhode Island hospital embraced is 5S – a tool that provides a high performance workplace. For example, in pre-admission testing a patient is now brought to an “all purpose” room rather than asking the patient to move through many different rooms to achieve the same result. Each room looks identical from the cabinets and labels (for replenishment signals) down to furniture orientation. Nurses are now spending more time on patient care instead of searching for things which were in different locations in each room.

Lean Healthcare Enterprises span hospitals, physician practices, nursing homes, clinics, laboratories, administrative, and other health services and delivers quick results while achieving long-term goals. Front-line employees love this strategy because the tools and techniques are easy to learn and implement. Because employees are making the change, not management, the solutions are designed and implemented by the staff that serves patients directly.

Hospitals are in need of a simpler strategy with tools that can create sustainable change. They need a collaborative approach that crosses inter-departmental barriers while reducing costs and building patient loyalty. Lean Healthcare can build a culture where every employee can easily acquire the tools and techniques for continuous improvement of the patient experience through empowered teams and committed management.

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