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# Lean at the Frontline: All Hands on Deck

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BY NAIDA GRUNDEN

**AUTHORS DAVID MANN AND KURT STUENKEL** and Taunya Faulkner offer encouraging views of their hospitals' journeys toward improving quality, safety, and efficiency while reducing costs. Their articles represent a breathtaking shift in the philosophy of healthcare improvement over the past decade, and point the way to future action.

In 2001, the fledgling Pittsburgh Regional Health Initiative (PRHI), a non-profit consortium of business and healthcare leaders in Southwestern Pennsylvania, began examining the region's healthcare system. Through PRHI, business leaders held out the possibility that the tenets of the Toyota Production System (TPS), or Lean, could improve efficiencies in hospitals.

At that time, the idea was a hard sell. A preponderance of hospital leaders still believed that improving quality would increase cost. They saw the goal of perfection as unrealistic. Many saw Lean as the latest in a series of top-down projects that would soon expire.

Pilot PRHI projects proved that: (1) improving quality reduces cost; (2) despite its industry genesis, Lean propels improvement in healthcare; and (3) without commitment from top management, efforts stall (Grunden 2008). Mann, Stuenkel, and Faulkner demonstrate a deep understanding of safety and its relationship to cost and satisfaction, and a commitment to making continuous improvement part of hospital culture. Theirs is becoming the prevailing attitude.

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## PEOPLE FIRST

Mann understands that a people-first philosophy undergirds Lean, and that tools are secondary to relationships. Liker concludes that “organizational change must start with individual change. He believes coaching, self reflection, and learning by doing are needed at every level of the organization to achieve change” (Falbo n.d.).

American healthcare has traditionally been operated in a “top-down” or “command and control” fashion, with leaders

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giving directions that trickle down through managers to frontline staff, who are left to puzzle through implementation. Graban (2008) speaks of the “incalculable waste when employees just show up, do their jobs (as told to, or as they have always done it), and go home.”

A facility that embraces Lean thinking views every employee as an asset. Their work furthers the organization’s goals of providing (1) value for the customer and (2) prosperity for the hospital (Graban 2008). While leaders set the vision, priorities, processes, and measures, the real action occurs on the frontline of care, not in the C-suite. In such an environment, leaders move away from rigid command and control, away from “project by project” increments, and toward arming frontline workers with the tools they need to improve their work every day (Thompson, Wolf, and Spear 2003). No longer “bosses,” managers become mentors and coaches, helping bridge organizational boundaries to improve care and remove waste. Improvements are not immutable fixes, but experiments that can be revisited and adjusted as the work flow indicates.

Spear (2009) speaks of four capabili-

ties of high-velocity organizations: (1) designing work to capture existing knowledge and building in tests to reveal problems; (2) swarming and solving problems to create new knowledge; (3) sharing new knowledge at every level; and (4) *leading by developing the first three capabilities*. Managing according to that fourth capability requires all hands on deck.

Mann, Stuenkel, and Faulkner provide blueprints for engaging managers, which, while important, may not be sufficient to achieve organizational transformation. The real work begins when the new process knowledge is disseminated throughout the organization, and when frontline workers, under the guidance of a coach, begin to call the shots on what to improve. Convis (1999) says, “People are an organization’s most important asset, and...the focus of a successful company must always be on the shop floor. Many executives fail to place proper emphasis on these critical areas.”

## SIX SIGMA OR LEAN?

Stuenkel and Faulkner’s Six Sigma work at Floyd Medical Center in Rome, Georgia would benefit from fuller discussion. Six Sigma is a technique distinct from Lean, although believed to be complementary to it. Some practitioners of both methods believe that because of the staggering burden of waste in health care, Lean works well as a first method, with Six Sigma introduced later as a refinement.

“While Lean tools can be easily learned and applied by nursing staff, technicians, registrars, etc., the analytical nature of Six Sigma makes it unlikely that these key resources (your front line problem solvers) will embrace the more complex concepts and be afforded the time to apply them effectively,” says Six Sigma black belt and Lean practitioner Marshall

Leslie (2007). “If your objective is to begin seeing improvement quickly and build momentum across your organization, then Lean should lead your improvement efforts.”

Floyd’s Value Compass places people at the center, a concept that aligns with Lean philosophy. Of concern, however, is that (1) the discussion does not mention quality; and (2) the method is “driven from the top down to ensure that key objectives for the organization are addressed.” A strictly top-down approach would be at odds with a more nuanced Lean approach, which is led from the top (top down), but relies heavily on frontline feedback to adjust direction (bottom up)—always in the pursuit of quality.

#### FINDING THE RIGHT TOOL FOR THE JOB

Lean tools tend to be simple, designed for users throughout the organization, especially those on the frontline. Six Sigma tools are complex, requiring advanced statistical knowledge applied by higher-level employees. Lean principles suggest that tools be only as complicated as they need to be to get the job done, by people closest to the work.

Trying to implement Lean without a fundamental change in top-down philosophy has led some leaders to strip off Lean tools—a *Kaizen* event here, a 5S or *kanban* there<sup>1</sup>. Because Lean elements are integrated and interdependent, painted-on versions do not result in sustained improvement, and can demoralize staff who have become invested.

Although, as Mann points out, tools do not make a program Lean, “Tools embody philosophy.” Shook and Womack (2009) recently described the A3 tool as the core work of Lean management—the single

tool used throughout Toyota and other organizations fully embracing Lean. Jimmerson (2008) adds, “By far the method that embodies the concepts and strategies at the core of Toyota’s renown is A3 problem solving. It is much more than a tool, although it is commonly included in the ‘Lean toolbox.’ As the method and document are understood and practiced, a new way to look at work and to *think* evolves.”

As a tool, A3 is deceptively simple—an 11-by-17 sheet of paper folded in half, used to analyze how a process could better support work. The left side describes a glitch in the system, includes a graphic of how the work is done (verified by people who do it), finds problem points, and digs into each one to determine its cause. The right side depicts how the process might be improved right now, who can help, and simple measurements of time, cost, and benefit.

A3 *thinking* is often the first step toward culture change—as Mann defines it, “the way we do things here.” This change occurs when observation, inquiry, improvement, and teamwork in pursuit of quality become automatic. Every improvement becomes a mini scientific experiment, complete with hypothesis, goal, action plan, and measurement. A3 thinking presupposes that anyone can be called to work on a problem, thereby fostering work across institutional boundaries or “silos.” A3 thinking places the frontline worker in the driver’s seat, with preparation, support, guidance, and accountability built in.

When organizations are ready to move from high-level value stream mapping to frontline implementation, transforming the role of leader, unleashing the creativity of every employee, and promoting Lean culture wall to wall, most find A3 the foundational tool that embodies the philosophy.

## MEASURING PROGRESS BY UNLEASHING THE COLLECTIVE GENIUS

Stuenkel and Faulkner note financial savings as a measure of progress, but adding the Value Compass demonstrates their commitment to measuring more than cost savings, and helps move what could have been a scattershot approach toward a value stream. Mann's group measured defects, errors, rework, first-time quality, customer satisfaction, and cost as measured by labor hours, as well as externally purchased services and materials.

Progress may be found in other metrics too, including data on employee satisfaction, reduced employee turnover, and increased patient satisfaction. Some indi-

cators may not come in the form of "data" at all.

***Finding and mentoring systems thinkers—that quiet nurse or doctor, that creative dish room employee—puts all hands on deck and propels organizations toward the ideal.***

A 150-bed hospital in Tennessee discovered evidence of Lean progress when a hand-written letter arrived in the quality department from a staff member in the dish room. Education across the organization had been taking place over several months, and improvements had been noted. Staff members were beginning to "pull" for a Lean instruction. The letter said, in part:

When we go to pick up carts, we (the dish people) face a big problem. People have opened their drinks and milks and that pours everywhere and leaks through the carts leaving big trails of milk. That means that the housekeepers and environmental services have to clean up the mess we made. So I think we dish people should come up with a system so that

doesn't happen any more. And then we will take responsibility for our mess like we do in the dish room!

I think we should have a small but deep container on top of the cart to put the leftover drink in. Put a container in the bio rooms on each floor and when the time comes, we empty the milk into the container. This way it will keep the carts cleaner and we can be responsible as we are in the dish room.

Idea from Tracey in the Dish Room

Tracey's letter heralds several encouraging developments that can occur during a Lean journey:

Although Lean training has not yet reached her area, Tracey has heard about it, and has faith that writing this letter will not result in punishment, but action.

Tracey's letter follows classic *A3 thinking*: a description of the current condition; an analysis of why it happens; an experiment she'd like to try that could end the problem forever; and how she will know if it worked.

Her letter underscores one of the most exciting aspects of Lean: the discovery of creativity and talent, often where you may least expect it. Some people, like Tracey, are natural systems thinkers. Finding and mentoring systems thinkers—that quiet nurse or doctor, that creative dish room employee—puts all hands on deck and propels organizations toward the ideal.

As Mann, Stuenkel, and Faulkner have aptly emphasized, introducing change in a hospital requires the commitment of top management (top down). When those leaders disseminate the knowledge to the frontlines, and follow with coaching and support (bottom up), the real transformation can begin.

## INTERVIEWEES:

Margaret Falbo, DNP, RN, Pittsburgh, PA  
 Mark Graban, author, *Lean Hospitals*, Dallas, TX  
 Cindy Jimmerson, RN, Principal, Lean Healthcare West, Bonner, MT  
 Marshall Leslie, BSIE, Director of Project Support, Healthcare Performance Partners, Nashville, TN  
 Debra J. Thompson, PhD, RN, University of Pittsburgh  
 Richard J. Zarbo, MD, DDS, Senior VP and Kathleen D. Ward Chair, Pathology and Laboratory Medicine, Henry Ford Health System, Detroit, MI

## NOTE

1. *Kaizen event* is a detailed look at a problem by a cross-functional team, aimed at improving standardization and remove waste. 5S is a Lean inventory discipline: Sort, Set in order, Shine, Standardize, and Sustain. This methodology puts equipment at the ready with correct par levels, and can reduce inventory, potential for error, and time spent searching for items.

*Kanban* is a visual signal, often just a card, used to trigger resupply. Lean tools are low-cost, low-tech, often requiring nothing more than paper and pencil.

## REFERENCES

Convis, G. 1999. *A Personal Perspective: Introducing TPS at New United Motor Mfg. Inc.*, presentation notes.

- Falbo, M. No date. Unpublished essay, "Organizational Transformation Using TPS," quoting Liker J, *Toyota Talent*, p 526.
- Graban, M. 2008. *Lean Hospitals: Improving Quality, Patient Safety, and Employee Satisfaction*. London: Productivity Press.
- Grunden, N. 2008. *The Pittsburgh Way to Efficient Healthcare: Improving Patient Care Using Toyota Based Methods*. Productivity Press, 2008.
- Jimmerson, C. 2008. *A3 Problem Solving for Healthcare: A Practical Method for Eliminating Waste*. Productivity Press 2008.
- Leslie, M. 2007. *Toolkit Overload: Lean or Six Sigma?* [Online document accessed 5/1/2009, <http://leanhealthcareexchange.com/?p=48> ]
- Spear, S. 2009. *Chasing the Rabbit: How Market Leaders Outdistance the Competition and How Great Companies Can Catch Up and Win*. New York: McGraw Hill.
- Thompson, D., G. Wolf, and S. Spear S. 2003. "Driving Improvement in Patient Care." *Journal of Nursing Administration* (33) 11.
- Womack, J., and J. Shook. 2009. "Forward to Fundamentals" (webinar). Cambridge, MA: Lean Enterprise Institute. Online document accessed 7/1/2009, <http://www.lean.org/Events/WebinarHome.cfm>

