



Creative Healthcare

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## Providers, Payers and IT Suppliers learn it pays **TO GET "LEAN"**

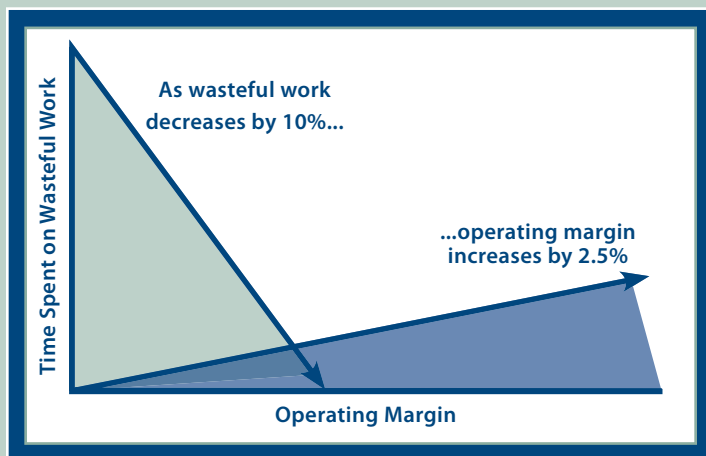
### **"INSTANT GRATIFICATION TAKES TOO LONG"**

This quip from a popular motion picture embodies the thinking of a society that places so much value on "expedience" that little else matters. But in competitive markets like healthcare, expedience is often not enough. It must be better, cheaper *and* faster to stand out as a competitive offering. It is in this spirit that the concepts of Lean manufacturing have gained such traction recently in healthcare. And the principles of Lean are so intuitive and compelling, that providers and payers alike can apply them and derive significant benefits in financial performance and customer satisfaction.

### **WHERE'S THE BEEF?**

Lean raises the fundamental question of whether or not an activity is truly "value added," a step that – by definition – alters a process, is done properly the first time, and is valued by the customer. In fact, many of the processes on both sides of the healthcare equation do not meet these three criteria. A recent study by the Murphy Leadership Institute (Washington, DC) revealed that 35% of hospital activity fails to meet the definition for value added; studies by the Rand Corporation, Institute for Health Improvement, and Dartmouth and Harvard Medical Schools have all reached similar conclusions. The recent study, however, puts this finding in economic terms: every 10 percent of wasteful work eliminated, it projects, results in an improvement in operating margin of 2.5%.

## REDUCE WASTE, GAIN MARGIN



### Top 10 Most Wasteful Activities in Healthcare Organizations:

- Completing multiple forms for same task
- Inefficient shift-to-shift ratios
- Interruptions
- Locating equipment
- Medications unavailable or delayed
- Meetings that last too long
- Searching for or correcting misplaced record
- Unnecessary or redundant communications
- Waiting for physician availability
- Waiting for something from another department

Source: Murphy Leadership Institute, 2003

In addition to the compelling economic benefits of practicing “Lean thinking,” the Leadership Institute study found a near 1:1 correlation between the elimination of wasteful work, employee satisfaction and perceptions of their organization as a quality place in which to work.

### Lean is the new Black

Ironically, Lean is not a new concept, just as the now popular Six Sigma methodology has been practiced in various forms for centuries. But it has emerged as a fundamental performance improvement methodology that can be applied to nearly every process, whereas Six Sigma is reserved for more complex and esoteric problems. The practice of merging both techniques has given rise to a new discipline, “Lean Sigma”.

Lean can be practiced by just about everyone who understands the concept of wasted motion. And eliminating wasteful work is something that everyone can appreciate and contribute to from their own perspective.

## LEAN THINKING - SUMMARIZED

- Value – always defined in terms of the customer
- Value Stream – input and output coordination of each step
- Flow – converting from batch to “one piece flow” of product
- Pull – produce what is needed and only when needed
- Perfection – strive for fewer defects once (1) – (4) is in place

Source: Lean Thinking, Womak & Jones

## MUDA = BAD

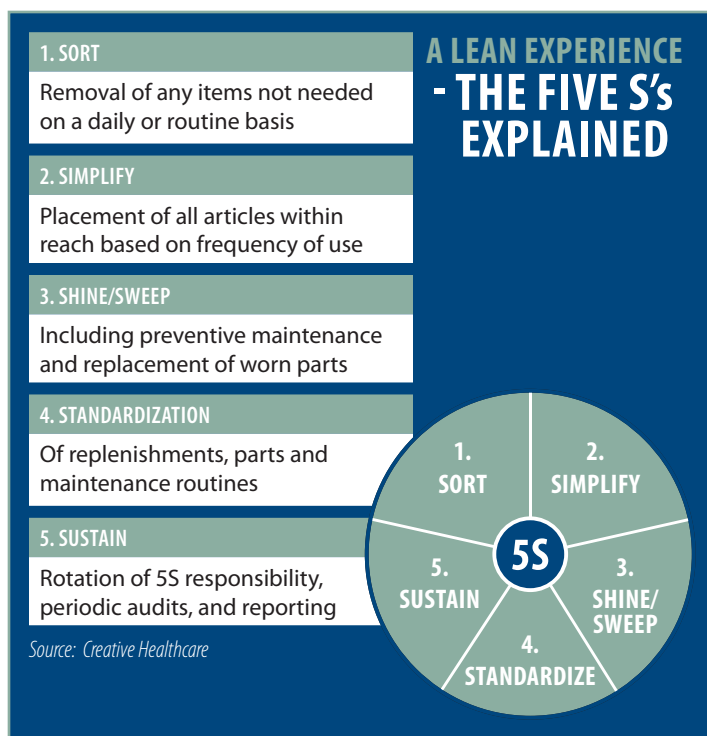
Lean has a number of basic principles that, once mastered, compel managers to look at their process as never before. Certainly the concept of “value added” stands as one of those principles, as it forces people to acknowledge that part of the process, or indeed entire process is simply not valued by the customer. This can be uncomfortable at first (particularly when someone learns their entire existence is “non-value added”), but it is also liberating as it makes it more acceptable to let go of processes that persist because “we have always done things that way.” Categorizing waste into various categories of “muda,” the Japanese equivalent of waste, is also instructive as it allows an organization to see how its internal resources are being applied, both productively and unproductively.

### Eight Types of Waste - “Muda”

- Defective Products and Services
- Excessive Motion
- Overproduction
- Excessive Processing
- Excess Inventories
- Transportation
- Not Leveraging Human Resources
- Waiting

Source: Creative Healthcare

Many organizations adopt other Japanese contributions to Lean, such as the 5S methodology, to create a process so efficient that it can monitor itself. A 5S “blitz” involves an intensive effort of a department to organize workspace, to dispense with unnecessary materials that get in the way, and formation of standardized workspaces where items are quickly within reach.



Source: Creative Healthcare





“**Performance improvement (done properly)**  
**will not only improve outcomes, it will make your job easier.**”

## WIN-WIN-WIN

Lean has been embraced with such vigor because when applied properly, everyone in the healthcare equation stands to benefit: processes are delivered faster, costing less, and with less effort. Consider the outcomes of the following Lean projects:

- A hospital in Arizona trims the time to admit a patient from the ED to inpatient unit by 10%; improved throughput is estimated to produce an extra \$500,000 annually.
- A laboratory reduces the time to produce a Troponin result by 25%; Troponin is an early indication of heart failure, where seconds count.
- A BlueCross BlueShield plan uses Lean principles to improve the claims handling process. As a result, claims payments are more consistently handled, and the plan is able to pay more quickly. Eventually they aim to implement real-time claims payment, where the claim and the payment are handled the same day.

## IT GETS LEAN

Lean and Six Sigma techniques can range from the very intuitive 5S methodology to those involving statistical analysis of cycle times and variation. When this happens, IT systems can contribute to successful “Lean Sigma” implementations, or they can hinder them. The IT community represents an important player in any organization’s efforts to improve performance, particularly if the organization is looking to leverage data as is needed in any Lean or Six Sigma initiatives.

To understand the intersection of Lean and IT, it is instructive to first understand the typical IT development process and how IT suppliers typically bring products to market. Within the walls of the IT supplier, decisions are often made based on what the programmers and their managers believe they can provide to users in the form of capabilities and reports. This “producer-centered management” may be expedient in the short term, but in the long run it’s bad for suppliers and customers alike.

Without a solid customer focus and understanding (what Lean and Six Sigma call “the Voice of the Customer”), potentially marginal

IT features are dispositioned as “when in doubt, include.” This makes the overall product more complex than it needs to be. This complexity, complete with extra bugs, greatly increases the resources needed to get the product out the door. What’s left is designed by software professionals in isolation, often overlooking critical needs of those who use the product.

Resulting products may provide enough value to entice customers to purchase, but they fall well short of optimum value. Customized reports may be available and pursued by a small cadre of highly computer-literate healthcare professionals, but this requires the customer to know what they want and how to create the reports. The remaining users must generally trudge through mountains of available canned reports that accumulate with each new release. Often they cannot find the right report, because either it’s unavailable or it’s the “needle in a haystack” full of similar, but not-quite-right alternatives.

(CONTINUED ON BACK)

## IT GETS LEAN (CONT.)

By contrast, a cornerstone of Six Sigma and Lean is the concept of delivering customer-centered value. Before launching the actual software development work, IT suppliers would invest in proven "Lean Sigma" techniques to make sure those specifications, modules, and resource assignments align efficiently to deliver maximum value – as defined by the customer – in the most efficient manner possible. This follows the notion of "going slow to go fast," because the delay up front pays off handsomely throughout the rest of the development effort:

- Features can be eliminated or delayed, ensuring that resources are devoted only to genuinely value-added ones.
- The ensuing code is less complex, speeding its development and making it easier to debug.
- Customer input can lead to features not available in competitors' products, with a good chance customers will like them, and actually use them.

One set of software features likely to appeal to customers is a set of utilities to gather and present reports in a "Lean Sigma" manner. Some common analytical tools might include Pareto charts, run charts, and basic histograms. These tools are renowned for turning data into knowledge in the hands of process experts.

In many existing IT systems, gathering and analyzing data simply takes too many steps. Susan R. Gallo, RRT, System Manager in the Department of Respiratory Care at Duke University Hospital, often finds herself extracting data from one database, configuring it with Excel™, and analyzing it using specialized statistical software. Such a complex process can be daunting to those whose skills focus more on medical technology than data analysis. As a result, the simple yet powerful tools of Lean and Six Sigma go unused by those best qualified to interpret the data.

What would help, says Gallo, would be a user-friendly interface to access data and display the charts, all integrated with the system that gathers and generates the data in the first place. "The closer we get to configuring and displaying data in a single step," notes Gallo, "the more we'll see people using data to make better decisions." It is all about

making IT "Lean Sigma Smart," and in keeping pace with an increasingly sophisticated customer base.

Some software developers are recognizing the opportunity before them. MediServe Information Systems (Tempe, AZ) is developing a suite of reporting utilities in partnership with Creative Healthcare, a training and consulting firm specializing in Lean and Six Sigma. Two key aspects of the suite are user-friendly data queries, along with the ability to display the data in the simple yet powerful graphics common to Lean and Six Sigma. The one-two punch of data access and display will enable the average healthcare professional to turn the same amount of data into vastly more useful information. "The application of Six Sigma and Lean to software products and the information generated by those products will be a requirement of forward looking organizations in the future," notes MediServe CEO Bruce Mortensen.

## NEW WORLD ORDER

The potential benefit to healthcare professionals from these developments is significant. The user, formerly dependent on software, IT staff and professionals with statistical experience, can now independently access data and turn it into powerful information for informed decision making.

Clearly such independence is liberating to all involved. Not only does the user gain autonomy, but the software and "Lean Sigma" professionals also shed the tasks they regard as mundane, and can help their organizations tackle even more challenging opportunities. Finally, the supplier of such software has a new edge in the market place, and we can readily admit we are all better off for "IT."

***For the top 20 questions people have about Six Sigma and Lean, go to: [www.creative-healthcare.com](http://www.creative-healthcare.com) and click on "20 questions."***



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