

Quality Qorner

Don't Waste Your Laboratory Away

As a self-employed consultant with paychecks that do not include tax withholding, no time period seems shorter than the annual April 15 tax-filing deadline. Being in the full swing of spring gets buried under the mounds of paper that remind me of old dirty snow piles. Tax time is a painful reminder that we must pay for the privilege of living in this large, free country. However, it is frustrating to give our federal and state governments upwards of 25% to 35% of what we earn each year and watch national medical and military costs soaring into the high billions. Our tax dollars seem to do less for us personally each year, while we are working harder than ever. Many of us would like to retire within the next 10 years, but wonder what we will have to show for it.

Perhaps you have the same train of thought with respect to your job in the laboratory. For at least 5 days a week, you spend 25% to 35% of your waking hours performing laboratory tasks, both assigned and unassigned. The demand for "faster, better, cheaper" laboratory services by customers and government continues to soar. You may be working harder than ever, wishing you could afford to retire this year, and wondering what you have to show for all your effort.

Even harder to accept is that reports from industry show that in most businesses, 25% to 35% of the company's operating cost is spent on various kinds of waste, including wasted time. Now, it *really* hurts to realize that we are spending 1/3 of our lives in our jobs, that 1/3 of our time and effort is spent in waste, and we have to spend 1/3 of our earnings on a government bureaucracy that is also likely to be wasting 1/3 of its effort and 1/3 of our dollars. Apply this fraction to the numbers of wasted hours and dollars in the billions and results are staggering! No wonder we are always being asked to do more with less!

However, as the saying goes, "Think globally, act locally." We can only control what we can control, which means that if we choose, we can reduce wasted effort and wasted resources in our laboratories. We only have to find out what needs to be done and, as another saying goes, "Just do it."

Last month, I talked about putting laboratory documents on a diet to make them leaner and offered some resources to get started. This month, I am suggesting that we put laboratory processes on a diet to make them "lean" as well. The "lean" effort was introduced by Toyota in its automotive manufacturing processes and is now used by savvy companies to transform wasteful processes into value-added processes that consider the customer's needs. Lean is now entering the health care realm.

To eliminate wasted effort and resources in our laboratories, we first need to imagine a perfect laboratory operation. In a perfect laboratory:

- The right tests are ordered and performed on the right patient, at the right time.
- There is an immediate response to orders for sample collection and testing.
- Sufficient materials are in inventory to do the work without outdating excess inventory and these materials are immediately accessible as we need them.
- Samples and staff move smoothly through their respective processes.

- Laboratory results and reports are error-free.

When we imagine this "perfect" laboratory we can begin to see the waste hidden in our efforts and use of resources. The Lean method first identifies 7 types of waste. Look at the following list of waste types and laboratory examples and add more ideas of waste hidden in your laboratory to those shown.

Defects: Errors in laboratory results or reports, missing reports, late reports.

Waiting: Time periods where laboratory personnel are waiting for the patient or the next batch of samples at receiving or testing.

Extra processing: Rework, such as redraws, retesting, rehandling, resending that occur because of defects in the original effort.

Transport: Unnecessary movement of samples, supplies, paper, or staff, and retrieval of lost, moved, or misplaced items needed in the work.

Motion: Extra steps taken by staff to accommodate "workarounds" arising from inefficient layout of samples, instrumentation, supplies, storage, or information.

Inventory: Extra inventory of laboratory reagents, supplies, paper, and other materials that are not directly required for the current work.

Overproduction: Performing unnecessary laboratory testing for *any* reason.

I encourage you to read the short list of articles in the bibliography below about Lean methods and tools that have been used in laboratories and blood centers and find other articles and publications as well. Although your laboratory may not be able to afford the services of one of the major firms that lead Lean efforts, it can still benefit from encouraging laboratory staff to share ideas about reducing the types of waste listed above. Perhaps your laboratory could have a contest during this month's National Medical Laboratory Professional Week and reward each person who submits an idea for reducing waste.

Now, if only there were a National Reduce Waste in Government Week...

Recent articles on Lean:

Jacobson JM, Johnson ME. Lean and Six Sigma: Not for amateurs. *Lab Med.* 2006;37:78-83,140-145.

McDowell J. Getting the fat out of labs—How "Leaning" can help labs cut waste and improve output. *Clin Lab News.* 2005;31:1-8.

Stanley J. Applying lean manufacturing in the blood center: Five principles to a leaner operation. *AABB News.* 2004;Nov/Dec:16-26.

This Month's Quality Quote:

"If any project is conducted in the same manner as it was 3 years earlier, then you can be sure there is waste."

—Masao Nemoto



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