WHITE PAPER

The "New Normal" In Laboratory Efficiency: Leaner, Faster, Smarter

OneSource Laboratory Services

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The KISS Principle

Rob Wright, editor-in-chief of *Life Science Leader Magazine,* recently penned an editorial advocating the KISS principle as a guide for future pharmaceutical research. For the uninitiated, KISS is an acronym for "Keep It Simple Stupid.[1]"

While simplification is becoming a popular buzzword in the pharmaceutical sector these days, the drive for simplicity is certainly not new. In 2008, the U.S. Environmental Protection Agency (EPA) initiated a massive study to streamline its own lab costs and increase productivity. The title of the EPA's final report pretty much said it all: *Commonsense Actions and Best Practices That Improve Laboratory Efficiency and Effectiveness.* Among the study's many observations were two important findings applicable to the entire research industry. To become more efficient and effective, labs need to initiate a deep-dive analysis into everything they do. Based on those findings, lab directors need to then put things that add value to the efficiencies and effectiveness of the lab into one bucket and relegate everything else to another bucket – preferably for someone else to do. In fact, the EPA found that its highest cost savings were when contractors operated in government-owned laboratories working side-by-side with its own scientists in providing those same non-value-added tasks and services[2].

The Blame Game

Unfortunately, most pharmaceutical labs have been slow to react to the rapidly changing post-recessionary environment. You do not need to look far for telling examples. One recent internal study found that lab scientists spent nearly a quarter of their time on non-value added tasks, from maintaining instrument quality to its actual maintenance, all at the expense of conducting significant research. Another report notes that it is as high as 75 percent of a researcher's time that is spent on non-valued added tasks.

In addition to those tasks already noted, excessive paperwork, waiting for lab results, and wasted time walking from one station to another due to poor lab layout all account for lower productivity [3,4]. Still more blame the traditional culture of labs themselves and their "we have always done it this way mentality" as the true culprits behind the industry's current predicament[5].

Whatever the causes, the effect has been the same. Compared to the automotive, aerospace, computer, and consumer goods sectors, pharmaceutical research laboratories lag far behind those same industries in overall effectiveness, productivity, and value-added culture[6]. Not only have billions of dollars in research opportunities been lost through complacency, industry experts now predict that the pharmaceutical sector will be thinned out within the next decade in what one observer describes as a "cultural transformation.[7]" In its wake, that transformation is expected to usher in a new golden age led by enlightened lab directors who challenge convention by exploring new ways to deliver higher value rather than higher cost. Characterized as a "faster, smarter mindset," this innovative approach to lab research and development will have a profound impact on end-to-end lab workflow solutions. It will require more team and customer engagement, reimaged lab spaces, a true understanding of "speed to market," and an unwavering commitment to delivering the best science at the lowest cost without comprise to quality [8].
The question is: how do you get there?

Efficiency By Design Approach

In spite of the lack of progress in this area, laboratories are constantly being pressured to improve efficiency and increase productivity, which can overwhelm even the best-run labs. Moreover, most labs don't possess the internal resources needed to transform their operations into an effective lab of the future.

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Given that state, how can it be done? The most streamlined, simple approach (with the highest chance for success) is for labs to concentrate on science, while co-sourcing non-core lab activities through a single, imbedded provider. Using a risk-based sourcing strategy offered by PerkinElmer OneSource®, for example, labs can develop an objective means to evaluate and optimize all of their scientific activities. Think of it as an efficiency by design model (Figure 1). It is a lab efficiency consulting platform based on three simple action items:

- **Standardize** by creating a predictable environment that meets the needs of everyone,
- **Automate** by simplifying laboratory tasks through robotics and/or Informatics tools, and
- **Specialize** by matching the right skill set to the right task.

These concepts are used to assess, propose, and implement operational effectiveness of lab operations, whether it is academic, industrial, or pharmaceutical. In each case a strategic roadmap is developed that features recommendations for specific improvements, positioned as short-term "quick wins" along with longer-term improvement projects. By taking a holistic approach to lab services, the process systematically maps lab activities and needs, from:

- Lab workflows
- Instrumentation
- Maintenance services
- Lab IT services
- Informatics systems
- Staffing
- Compliance
- Automation

A baseline map combined with a lab efficiency rating describing the current state and a gap analysis tailored to individual labs are then created. That, in turn, allows each lab the ability to differentiate core versus non-core activities based on its own unique evaluation criteria. In addition, this information serves as a benchmark that can be used to compare the labs operational effectiveness to its peers, either internally or externally. At that point, laboratory tasks can be prioritized among staff scientists or reassigned to imbedded, in-sourced staff (in many instances former colleagues) without ever leaving the laboratory. The result is an optimized environment that complies with regulatory guidance, if applicable, where scientists focus on core research and in-sourced staff handles everything else, from instrument and consumables' maintenance to Lab IT tools and services, even lab and instrument relocation services—determined by the lab's own changing needs and at a significant savings to the company.

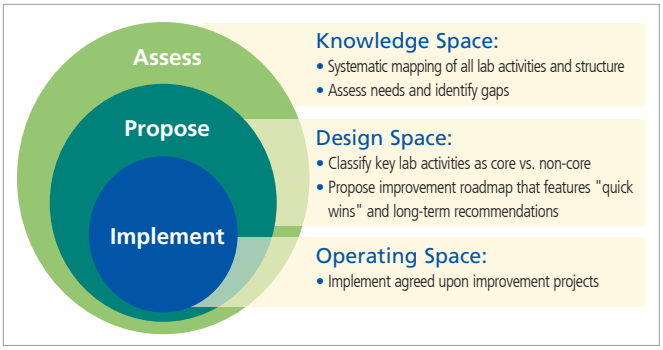

Figure 1. Efficiency by Design approach

Does it work? Just ask the scientists at Boehringer Ingleheim. When they were challenged to find ways to reduce spending and improve efficiencies, they defined their own evaluation criteria to determine whether outsourcing or co-sourcing provided the best solution for their lab's extensive instrument maintenance needs. After conducting an analysis of the lab processes, the company found that its scientists spent as much as a quarter of their time on non-lab activities. Once it partnered with OneSource, however, scientists were able to spend more time on experiments (Figure 2) and equipment downtime was dramatically reduced, thanks to the imbedded engineering staff that was able to service all of the equipment, regardless of the manufacturer[9].

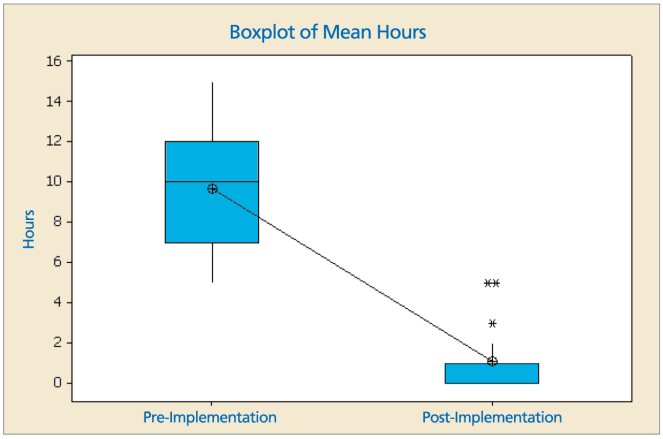

Figure 2. Increasing scientists time spent on core activities

The common excuse that "It's not a good time, because I'm too busy," is no longer valid. It is time to see what leaders are doing in the area of lab efficiencies and effectiveness. With the abundance of Big Data at a lab's fingertips, it is no longer a question of what to do but rather finding the right strategic partner to help implement change. Consolidating lab services through one strategic partner is certainly a major step forward. Instead of dealing with multiple vendor contracts and the headaches associated with sorting out who is responsible for what and when, a co-source partnership with PerkinElmer OneSource can optimize lab operations, help ensure compliance, and significantly reduce operating costs – all without those tasks ever leaving your lab. That is what simple solutions are all about… always there when it counts.

For additional information on PerkinElmer OneSource Laboratory Services and the benefits of Efficiency by Design, visit: www.perkinelmer.com/efficiency.

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