

Improving Efficiency in the Accessioning Department using LEAN

Background

Blood Systems Laboratories (BSL) recently implemented process improvement methods that utilize LEAN Six Sigma tools within Kaizen events. Staff come together with a few experts for four days straight and complete most or all of a DMAIC cycle on a narrowly targeted high-priority issue. This abstract highlights BSL's first Kaizen event in the Accessioning or sample receiving department. During this event, staff from different laboratory departments critically evaluated current processes to reduce non-value added steps.

Methods

After a brief training event, the team first reviewed both the project charter and the goals of the Kaizen event. The team then began observation of the various processes in the department. Staff and sample movement through the department were tracked and timed resulting in all sub-processes being mapped, turn around time determined and waste identified. The newly collected data was then analyzed along with historical performance data. Performance data included sample volume by shift, day of week and client type, as well as batch turn around time and sample quarantine issues.

Much of the third day was spent in brainstorming exercises and prioritizing process improvement ideas. One process improvement idea was actually piloted the same evening and its effect on turn around time documented. The final day of the event focused on establishing dates that the various improvement ideas could be implemented. Close out consisted of presenting all process improvement plans to upper management for on the spot approval or rejection.

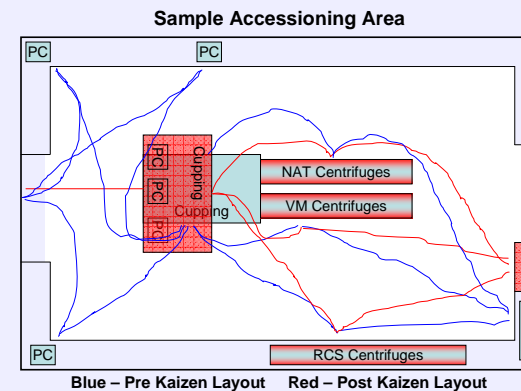
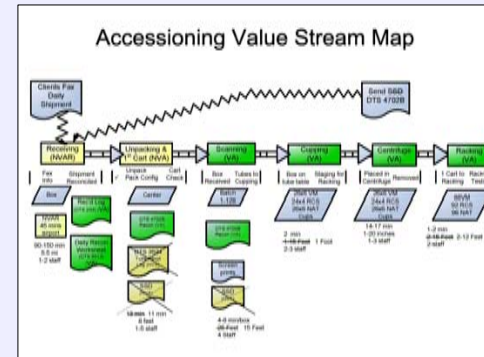
Results

A new form was created to replace the one required for clients to fill out. The new form required less documentation from clients and included a specific client barcode identifier reducing the potential for error. The new form eliminated the need for data transcription by BSL staff to another form, which improved efficiency and reduced the error rate associated with sample check-in. The sample check-in error rate was reduced by 29%. Remodeling ideas for the work area reduced travel of material by 38 feet or 25% per batch. All excess materials were removed from the receiving area. Optimal number of computers and printers were obtained to reduce bottlenecks and reduce unnecessary travel. Work station equipment was standardized.

A value stream map was created that identified all key steps in the Accessioning process. This map helped identify opportunities to improve the process in this project and will be available for future projects. Throughput in the department improved as much as 7% on the heaviest shift.

Conclusion

BSL has utilized Six Sigma process improvement methods for about 5 years. This project represented the first time BSL utilized LEAN Six Sigma tools in the context of a Kaizen event. BSL found the experience to be a very powerful method to analyze performance in a focused area of the lab. Teaming departmental experts with experienced staff from other departments allowed a lot of "dumb" questions to be asked and resulted in many long held "essential" processes being eliminated or shortened. Upper management's support of the Kaizen method and their willingness to make immediate decisions on improvement ideas generated during the event was critical to its success.



Kaizen Event Scorecard

Metric	UOM	Pre-Kaizen	Post-Kaizen	% Improvement
Total Mfg Floor Space	Feet	NA	NA	
Product Travel Distance	Feet	153	115	25%
Staff Travel Distance	Feet	248	156	37%
Product Throughput Time	Minutes	1:43:00	1:33:00	7%
Accessioning Error Rate with sample check-in	Count of Defects	75	53	29%

Session I
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