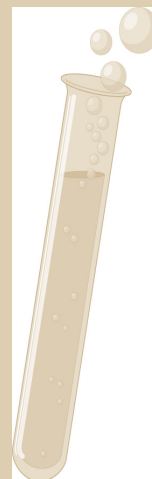


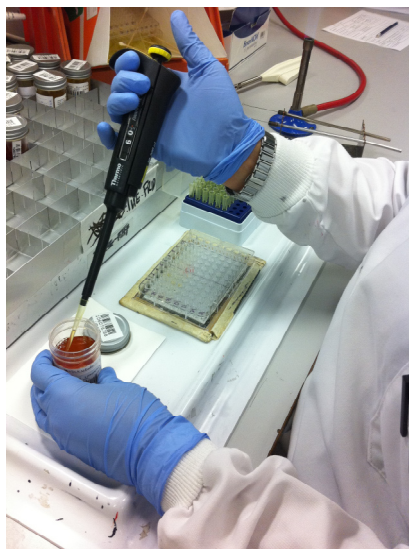
Lean in Pathology at Homerton University Hospital



From Possibility...

BACKGROUND

Pathology in the NHS is increasingly becoming subject to market forces and competition. Laboratory directors are recognising that the survival of many in-house services will depend on their ability to demonstrate cost-effectiveness or to offer a better quality service than neighbouring laboratories.



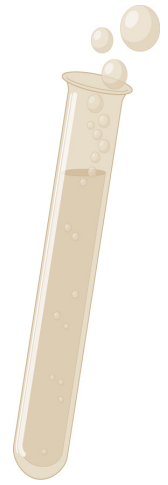
The team at the Microbiology Laboratory at Homerton University Hospital in London wanted to understand whether LEAN ways of working, as mentioned in the Lord Carter report, could be applied to microbiology testing. They wanted to assess the potential for efficiencies, identify where service quality could be enhanced, and understand the real constraints on their ability to increase throughput by taking on more work from GPs and other hospitals.

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OUR APPROACH

Ad Esse completed a fast 4 day Lean diagnostic with Homerton Microbiology consisting of:

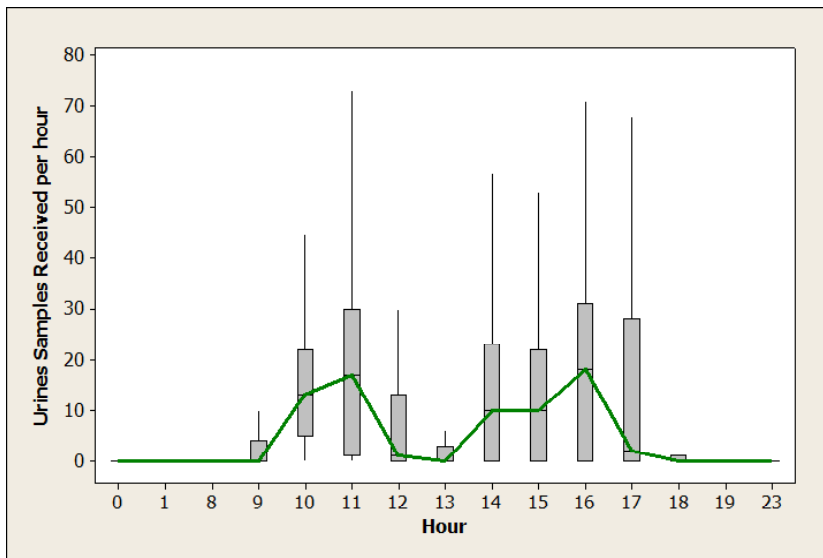
- Analysis of WinPath data to provide a better understanding of the demand variations by sample type, turnaround times and costs per test
- Observations and interviews with laboratory staff including Consultants, Biomedical Scientists (BMSs), Microbiology Laboratory Assistants (MLAs) and reception staff
- Following samples through the process to produce value stream maps reviewing typical batch sizes and processing times
- Assessment of the laboratory layout, visual controls and performance reports



To Actuality...

The staff interviews generated a wealth of comments on process waste and ideas for improvements. These were analysed, assessed against observed data and WinPath outputs, and the results reported in a way to provide a compelling and guided rationale for change. The evidence base quantified and helped to visualise:

- How the layout of the laboratory makes it difficult to observe the 'flow' of samples through the stages of testing in order to identify bottlenecks or priorities for support
- The extent of laboratory staff time spent on non-value adding activities such as correcting errors from other departments, meetings, chasing samples and inefficient set-ups
- The variation between BMSs in the typical number of tests carried out per sample
- The extent to which sample 'batching' interrupts the process flow, inflates space requirements and creates difficulties to allocate resources
- The most efficient use of resources to process the daily pattern of demand



Identified benefits

Analysis of a typical daily cycle for the Urine workbench

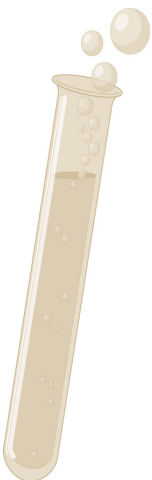
Preparation of new samples (MLA) → Microscopy (BMS) → Sensitivities from Microscopy (MLA \ BMS) → Plate readings (BMS) → Putting up of follow on tests (MLA)

TIME	New samples MLA Cycle Time (mins)	Microscopy BMS Cycle Time (mins)	Sensitivities MLA \ BMS Cycle Time (mins)	Plate Readings BMS Cycle Time (mins)	Follow on Tests MLA Cycle Time (mins)
09:00				40 45	
10:00				132 150	
11:00	37 35				
12:00	17 13				18 70
13:00					
14:00		54 40			
15:00	44 40		20 15		
16:00	19 25	83 40			
17:00	20 25		30 30		
	137 1.01	137 0.58	50 0.90	172 1.13	18 ?

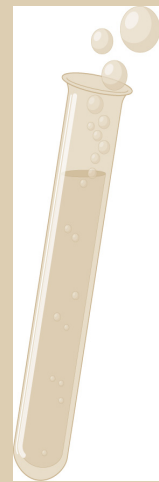
In-depth analysis of the test stages required for urine samples provides an example of significant productivity benefits when applying LEAN concepts of master scheduling using demand analysis, reduced batch sizes and improved visual controls. Our observations of testing throughput (shown above) showed that it is possible to plate up a full day's new urine samples only in the afternoon rather than across the working day, thereby freeing up the morning for the MLA to work on other tasks (e.g. training, quality improvement and other tests) without adding to workload of the BMS and without compromising quality of the tests.

Our analyses also demonstrated that through using a range of LEAN working methods it was possible for the Laboratory to:

- Make better use of existing staff resources which could be re-focused on:
 - o Building the capacity to take on more profitable work
 - o Freeing up staff resource for training
 - o Cost savings



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- Provide better tools for Senior BMSs to monitor the quality of testing and to provide a master schedule that would allow for improved training and supervision. This supports the laboratory's resourcing strategy to evolve the staffing profile to support a greater proportion of more junior grades.
- Reduce consumables costs through cutting out unnecessary tests, redesigning the sample tracking process to minimise the number of labels that are printed out but thrown away unused, and numbers of culture plates wasted.

"The Ad Esse team displayed excellent communication skills and a profound understanding of the rapid changes Pathology is undergoing at the moment. They managed to bring the best out in staff of all grades, analysed our data in meaningful ways and accumulated constructive suggestions in record time. Their workshop on Lean and Six Sigma received excellent feedback and their work has had a significant impact on our plans for the development of our service."

DR DANIEL KRAHÉ- Consultant Microbiologist

FURTHER INFORMATION

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