

Don't tell them it's lean and you'll get away with it



Andy Hyde works for the Department of eHealth and Technology, South East Regional Health Authority, Oslo, Norway. At the time the case study was undertaken he was director of quality and performance management.

This article describes how the improvement process was implemented and by relating it to lean philosophy and methods attempts to conclude as to why the improvement is continuing.

READ ABOUT:

Diakonhjemmet Hospital in Norway's not-lean lean transformation

Showing how lean ideas are used as an improvement philosophy without mentioning lean

Improvement processes following a planned and structured method without anyone realising

INTRODUCTION

The improvement process was initiated in 2006 and the measurement of the changes were made in 2011 and 2012.

The background for this article is not only the improvement process but the fact that the improvements have continued despite a change of hospital director and the improvement system's architect and builder, the author, leaving the hospital.

In many improvement processes, the rate of improvement either stagnates or reverses when central actors such as the sponsor or architect leave.

So what has happened differently at Diakonhjemmet Hospital?

BACKGROUND

Diakonhjemmet Hospital is a privately owned non-profit hospital fully funded by public funds and, for all intents and purpose, part of the public health system in Norway. It is located in Oslo, and serves a population of approximately 120,000 people. It has services for A&E, internal medicine, surgery, rheumatology and child, adult and elderly psychiatry. Medical services include anesthesiology, medical biology, psychopharmacology, clinical activity and radiology. The only large areas not covered are children and maternity.

In 2006 the hospital's quality statistics were middle of the road, not bad, but not good and definitely not best. The

national statistics office (SSB) showed the cost per bed day for Diakonhjemmet Hospital was 16% over the regional average making us one of the most costly hospitals in the country. We explained away this by pointing out how special and different we were but behind the scenes we weren't happy.

DEVELOPING AND IMPLEMENTING LEAN PRINCIPLES AND PHILOSOPHY

Maybe because of the author's lack of formal training in lean or maybe as a result of a deeper understanding yet to be identified, there was no big project plan, no major quality improvement milestones, no great announcement. There was no burning platform, no crisis to be addressed, just a general feeling we should be better than we are.

The one basic principle the implementation built on was ownership of the improvements had to be with the people doing the work. Facts, not just data provided by some external data analysis team, should drive the improvement. The author was initially employed at the hospital to develop a business intelligence (BI) system to measure and report performance. By 2006 the system was developed and in use; christened DIA-LIS, Diakonhjemmet's leadership information system.

DIA-LIS was built to show performance using statistical process control (SPC) and was used first to identify issues and bottlenecks in the process of creating and sending the patient's clinical summary document to the patient's GP. The law demanded 80% of the summaries be sent within seven days of discharge. In 2006 we managed under 50% as an average across all departments.

DIA-LIS quickly showed there were large differences between different departments and within departments between different functions. The figures were shown to the employee groups involved in the process and to cut a long story short, nobody accepted responsibility for the results and basically blamed each other. The figures were broken down by process step to identify throughput times for each activity that

was measurable and thereby indirectly showing with which employee group the bottleneck was. Once this was identified and after the usual rounds of denial, shock, depression and then acceptance, these groups took ownership and redesigned their processes. No value stream mapping, no flow charts on the wall, just continual elimination of waste.

The result was a gradual increase from under 50% in January 2007 to over 80% by October of 2008 after each department and/or section had undergone the same approach. The figure stayed over 80% without further intervention other than monthly reporting of the status per department through the standard DIA-LIS reporting system.

This same method was used on two new highly politicised indicators, waiting times and defaulted treatment guarantees. In Norway, when you are referred to a hospital for treatment, if you are amongst those given a high priority because of the nature of your illness or condition, you receive a date within which the doctor, on behalf of the hospital, guarantees treatment will be commenced. If the patient does not receive treatment within the date this is a breach of the guarantee and a violation of the patient's rights covered by laws and bylaws.

Again, the pattern was the same. Each department had different results and each specialty within a department also differed. Department managers and heads of the specialties were shown their figures and denied the figures were correct. After discussing the figures with the health secretaries whom had a major role in the process, new ways to present the figures were developed and gradually ownership was taken by those involved.

Looking back and comparing the praxis with the theory there were several elements of lean philosophy being applied. Ownership of the improvements was given to those involved. The author, despite having the authority through a senior position in the hospital management,

but not having a clinical background, never told anyone what to do to improve. Visualisation of the results both for each department and function, but also for management and between departments and functions gave transparency to the improvement process. It is not fair to say there was competition but nobody wants to be last. The basics of process and flow were being understood whilst looking for both bottlenecks and waste. And not least the PDCA circle was introduced to plan a change, try the improvement, measure it and document the new way of doing things.

DEVELOPING LEAN MANAGEMENT

The rest of the management team at this time were not involved and were largely unaware of the changes taking place and the process being used. However, by 2010 the targets in almost all areas were achieved or levels greatly improved and it was being noticed.

The next step was to use a phrase the author doesn't really like: we set a big hairy audacious goal (BHAG). Let's make this into a new hospital management system. The author explained the philosophy to the rest of

There was no burning platform, no crisis to be addressed, just a general feeling we should be better than we are //

the management team through PDCA, processes, DIA-LIS and ownership of the improvements. The total planning process from the yearly political goals and demands document setting out the political expectations for the year for each hospital, to the internal planning process, monthly internal reporting and back to quarterly and yearly external reporting would be managed in the same way as clinical summary, waiting times and treatment guarantee defaults. Each of the goals and expectations would be broken down by ownership in the management

and clinical departments. Improvement plans would be made and implemented by the departments themselves

Measurement statistics were developed in DIA-LIS and a reporting structure was created based on the ISO 9001 concept of management reviews. One important aspect of the whole system is the hospital values were placed firmly in the centre.

One major element of the lean approach to the management system was to think longer term and more holistic than previously. Hospitals have a long-term strategy and receive a set of yearly goals and deliverables outlined in the yearly plan documents from the regional health authority. Both of these are must do

activities. Each department in addition has a set of want to do activities. The problem was more resources were often used on the want to do activities meaning strategic and must do activities were not always completed.

To make matters worse, the silo structure of the hospital meant many of the want activities were also not completed because of dependencies to other departments or functions who had not been part of the planning. Often by the end of the year, it was not clear who the customer was in the first place, except the department itself.

The value based management system introduced the requirement that all local activities must have a customer, they must be planned with all involved departments and they should in some way be aligned with the hospitals overall strategy. Almost immediately, the yearly action plans were focused, holistic and realistic saving resources used for value adding activity.

2012 and in 2013, the author accepted a position in the regional health authority. The new director was an internal candidate and therefore was already familiar with the management system. What's more, he also supported its continued use and development.

To add to the changes that could influence the results. In 2014, the regional health authority instigated changes to the distribution of patients between the hospitals in Oslo in 2014 to reduce queues resulting in a patient increase of 35% for Diakonhjemmet.

What would happen? Would the improvements be sustained or as in so many other improvement processes, flatten or even return to their pre-change states?

To the author's delight and surprise the management system is further developed and the results are not only sustained but continuously improving.

The system of management, value based performance management as depicted in figure one has been truly embedded in the culture, standards and processes of the hospital and has been rechristened. As of 2015 it is now called value based improvement management.

Lean is all the rage in healthcare and according to books, conference presentations and articles in journals, it works //

CONTINUING IMPROVEMENT AGAINST THE ODDS

The hospital director who was the main sponsor for the improvements (who had a copy of Senge's *The Fifth Discipline* in his office bookcase) left his position in

VALUE-BASED IMPROVEMENT MANAGEMENT

Core values respect, quality, service of justice are the foundation of the holistic quality management system at Diakonhjemmet Hospital. The colours of the different toolsets and results documentation are associated with the different parts of the PDCA circle.

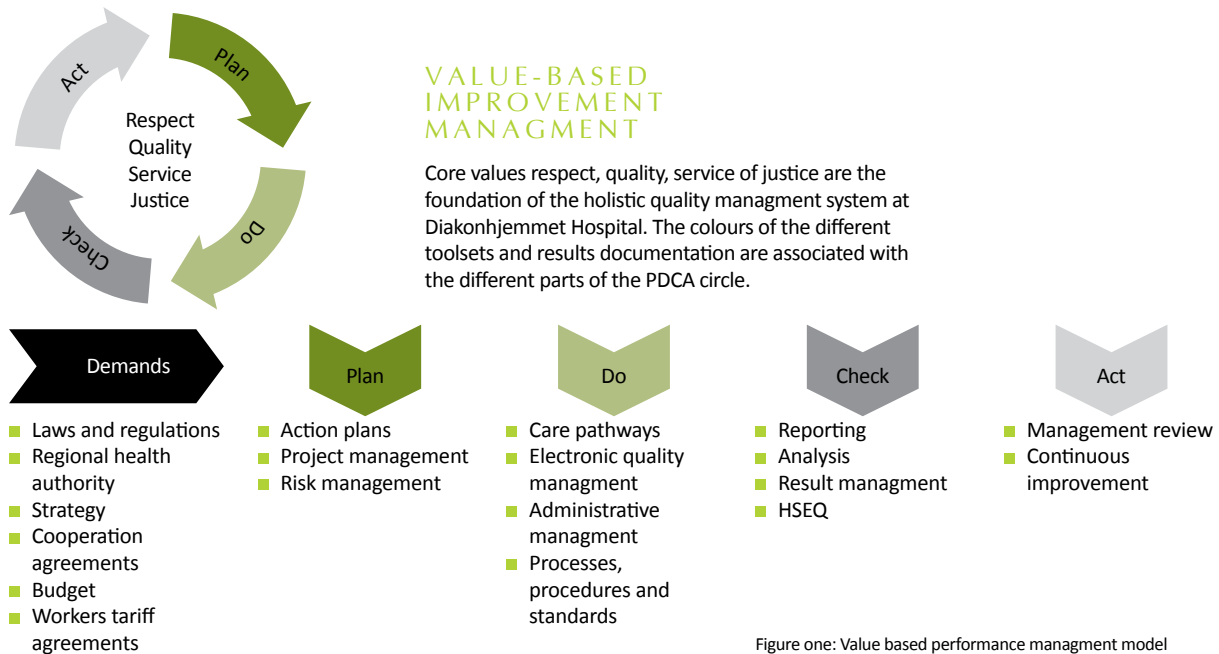


Figure one: Value based performance management model

“ We have never mentioned the word lean. We have never held a kaizen workshop, at least not by name ”

In a recent management white paper distributed to all the hospital managers it says:

We use the PDCA circle as the underpinning model for value based performance management, or more correctly, value based improvement management. The model describes how all services and results are continually improved and how managers at all levels have responsibility to make this happen through their style of leadership.

RESULTS

The national health directorate publishes monthly, quarterly and yearly quality statistics for all the hospitals in Norway. Diakonhjemmet Hospital was around average in 2006 and near the top in 2011,-it is now, in 2014, number one in Norway in many of the categories.

The national statistics include waiting times, treatment guarantee defaults, evaluation of referral duration defaults, corridor patients, patient satisfaction, readmissions, hospital infections, sending of clinical summary documents and postponed surgery.

The results for the patient satisfaction survey are, in a lean context, maybe the most satisfying. In the survey from 2005, Diakonhjemmet Hospital was placed number 32 out of 60 hospitals. In 2011 after five years of improvement, placed seventh and when excluding tertiary specialist hospitals, fourth. Only two hospitals achieved a significant increase in over half of the measured categories and Diakonhjemmet Hospital was one of these.

The final acknowledgement of the improvement process and one all quality and lean exponents firmly believe is the hospital has now a cost per bed day index of 1.00. An improvement of 16% in cost efficiency.

CONCLUSIONS

Lean is all the rage in healthcare and according to books, conference presentations and articles in journals, it works. However, many of the improvements are in operations and

Quality indicator	Ranking (out of 23 hospital trusts) 2nd tertial 2014*
Waiting times until start treatment	1
Treatment guarantee defaults	1
Evaluation of referral duration defaults	1
Corridor patients	1
Readmissions of elderly patients	11
Hospital infections	6
Sending of clinical summary documents	1
Postponed surgery	6
Patient satisfaction	
Nurses	1
Information	1
Doctors	1
Next of kin	1
Organising	5
Standard	2
Discharge	1
Cross tier cooperation	3
Patient safety	4
Waiting	3

logistics and have focused on the use of tools such as value stream mapping, 5S, A3 problem solving. Examples of improvements in processes in A&E and operation room efficiency abound.

This article has shown by applying lean through its basic philosophies such as respect for people and systematically improving quality using PDCA then building these into the management system of the hospital, continual improvement becomes a way of working and not just a buzz word or project that ends with no lasting result.

We have never mentioned the word lean. We have never held a kaizen workshop, at least not by name. The hospital's management or its employees, would never ask if it is lean and if asked would undoubtedly deny it. They have found a system of continual improvement that works for them, based on a lean philosophy, and they have chosen to call it value based improvement management. Is it lean? The author would answer, yes; the hospital is better today than it was yesterday.

Further reading: Modig N. and Åhlström P., *This is Lean: Resolving the Efficiency Paradox*