

# Lean and Six Sigma – can they really be applied to healthcare?

Lean and Six Sigma tools are very useful, but we need to use them in the context of delivering better outcomes for patients and not simply trying to replicate what has been successful in manufacturing, says **Max Moullin**

**T**here is no doubt that many organisations using Lean and Six Sigma tools in healthcare have achieved significant improvements. However what about the underlying philosophies of these approaches - how well do they transfer to health? To answer this question it is important to look at the origins of these philosophies.

Lean was originally developed in the automotive industry by Toyota. Toyota knew exactly what product characteristics they wanted to achieve. Therefore, in that context quality of the product corresponded directly to achieving consistency of both the process and the finished product, while reducing waste and unnecessary cost. The Toyota Production System was designed to do just that.

However in most services, including healthcare, quality and consistency are not the same thing. Because individual requirements differ, a quality service for one person may not be the same as for another. This can be seen by looking at customer ratings of hotels. People who experience essentially the same service – room, food, location etc – will give very different opinions about the quality of a hotel.

Another example is the target for a GP to see patients within 48 hours. Patients who feel their need is more urgent may not be satisfied with this, while those whose need is not so urgent may be more concerned with having an appointment time which fits in with their busy lifestyle. Therefore, a GP surgery which consistently meets its 48 hour target may not be providing a better quality service than one

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which does not.

Six Sigma, too, has its origins in manufacturing – including Motorola and GE. It is an extremely effective method of reducing variation and fits in very well with the philosophy of Deming, one of the founders of total quality management, who once said: 'If I had to reduce my message to a few words, I'd say it all had to do with reducing variation'. This approach, which has made dramatic improvements in manufacturing, can be very relevant in situations

like reducing hospital acquired infections or reducing the number of incorrectly analysed samples at a haematology laboratory. However, where individual customers have differing requirements – which is the case in most healthcare services - reducing variation does not necessarily equate with improved quality.

Another problem is that health services have to meet the needs of a wide range of stakeholder requirements. For example, there are a number of hospitals

that have used Lean and Six Sigma tools to reduce waiting times at a hospital. However, lower waiting times - while very important - is of course not the only outcome required for a healthcare process. Also processes need to be robust, so that the system can cope under pressure. These tools therefore need to be used with care to make sure that other aspects are not compromised.

In conclusion, when redesigning processes, it is important not to start by asking the question "how can we use a particular tool" or "how can these tools be adapted to healthcare". Instead, we should start by identifying, with users and staff, the outcomes that matter most to patients, carers and other key stakeholders. The



next stage is to understand the current processes, care pathways and the patient journey, and be prepared to be innovative in looking for alternative ways of delivering the outcomes required effectively and efficiently, using whatever tools, including Lean and Six Sigma, seem appropriate. But well specified processes are not sufficient – many processes look good on paper, but do not work in practice due to low staff morale, lack of resources, or poor teamwork. We need also to address the organisation's capability to support its people and processes in achieving the outcomes required. Leadership is of course fundamental to this, as is ensuring sufficient resources. But in addition, they need a culture which values and develops their people, engages positively with partnership working and user involvement and provides a supportive climate for innovation and learning from others.

These three elements – outcomes, processes and capability – are the fundamental building blocks of the Public Sector Scorecard (Moullin, 2002). This is an integrated quality management and performance measurement framework which extends and adapts the balanced scorecard for the public and voluntary sectors.

So, yes, Lean and Six Sigma tools are very useful but we need to use them in the context of delivering better outcomes for patients and not simply trying to replicate what has been successful in manufacturing.

To learn more about the Public Sector Scorecard or download a free copy of the above paper, visit [www.shu.ac.uk/research/ciod/tqm/scorecard.html](http://www.shu.ac.uk/research/ciod/tqm/scorecard.html)

#### References

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