Corporate lean improvement programs in healthcare:

Hitting the point, missing the target

**Introduction**

This paper reports the findings of a longitudinal study of a corporate change program based on a process improvement approach, commonly known as lean[[1]](#footnote-1). Our empirical context are public hospitals in the UK. Despite the number of studies focusing on lean within manufacturing and service sectors, most authors have tended to focus on individual projects that adopt principles and methods to deliver localized improvement. Much less has been done in relation to corporate change programs that span the whole organization (Netland et al. 2015; Steen and Tilemma, 2018).

It is often said that more than 70% of process improvement programs fail (Bhasin and Burcher, 2006; Neuhaus & Guarraia, 2007). Yet, for many operations management scholars the belief that organizations can and do benefit from lean is not in question; instead, it is argued that research should focus upon *how* to implement lean to ensure its success (cf. Netland et al., 2015). As a consequence, research has developed rich insights about infrastructural and behavioral aspects to guide implementation. Key elements include: decisions about where to start a corporate lean program, how to build improvement capability, and how to involve different levels of management in decision making processes to foster alignment between local and corporate priorities (Catena et al., 2020; Netland et al., 2015; Anand et al., 2009). In healthcare, routinely engaging a diverse set of professionals towards a shared goal of improving the quality of patient care is crucial to avoid professional biases that can undermine the corporate improvement endeavor (Johnson et al, 2020).

In this study, we extend research on corporate change programs by showing that the way performance is measured and whether alignment with corporate (and national) priorities is ensured will influence the effectiveness of the overall change program. Indeed, previous studies have shown that performance measurement practices can enable but also hinder improvement, especially in complex organizations (Melnyk et al., 2004; 2010). Also, failure to evidence operational and financial improvement can leave even the most embedded corporate lean program vulnerable to elimination. However, the literature has remained silent about how corporate change programs should seek to quantify and evidence impact in a meaningful way (Wemmerlov, 2020). Considering strategic alignment, corporate change programs are often disconnected from organizational priorities in an attempt to reduce potential negative influences (e.g., entrenched power dynamics and organizational norms and routines). At the same time, these programs are typically expected to quickly lead to improvements in performance and are blamed if better results cannot be demonstrated.

**The study**

This study is built on a national evaluation of a partnership between the English NHS and the Virginia Mason Institute where five public English hospitals have been supported for five years to develop localized versions of the Virginia Mason Production System (akin to the Toyota Production System). The £12 million partnership was launched in 2015 by the (then) UK Health Secretary, Jeremy Hunt, and is now coming to an end.

The partnership is unusual in many ways, in particular for the unprecedented support of the regulator that has led to a regulator-healthcare provider relationship that is more relational and informal in its approach to governance than has been seen before (we wrote about this in a recent article: Improving together: collaboration needs to start with regulators. BMJ, 367).

Of particular interest is the early decision to not measure the five English hospitals using any additional indicators of performance (since UK hospitals are subject to a raft of national measures and targets already). While this made sense at the time, our data suggests that this left the five hospitals to their own devices when thinking about what to improve, why and how to measure success in a meaningful way. Ultimately, all five organisations have struggled to evidence the impact of their improvement work even though interviews with CEOs, senior managers, middle managers and frontline staff all concur that the improvement method has delivered significant benefits to the organisation including performance improvements and financial savings.

The research involved over 170 interviews and approximately 200 hours of observation across three years, a survey with approximately 350 responses as well as an extensive archive of quantitative process improvement data.

Our analysis focuses on the following aspects: the choice of areas to seek improvement (value streams); the degree of alignment with local, corporate and national priorities; decisions about what is measured and how; and extent to which performance measurement systems portray the success or otherwise of the change program in a meaningful way.

**Outcomes and potential contributions**

This research shows the importance of creating strategic alignment between the corporate change program and the local and national priorities, which are often cascaded through performance targets and indicators. We also demonstrate how learning should be a central part of corporate lean improvement programs in healthcare, and we identify three areas of tension or paradoxes in their design and implementation:

1. Performance measurement paradox (to measure/not to measure)
   * With no measurable goals, success can be cast in vague terms, improvement work can be ‘protected’ from external context and risk of failure is reduced
   * However, with no measurable goals, it is difficult to evidence success and to create strategic alignment.
2. Capability building and “performance paradox” (Aoki, 2020)
   * The corporate change program was heavily weighted towards capability building rather than improving performance. Capability building was expected to happen through ‘fail forward fast’; however, many interviewees questioned whether this process was sufficiently ‘fast’ and whether some failures should have actually been avoided in the first place.
   * The program regarded performance improvement not as a primary goal, but almost as an inevitable consequence with the prevailing notion that ‘all improvement is good.’ At the same time, weak links between the program and organizational and national priorities meant that some improvements were achieved in areas not regarded as key.
3. Control – Autonomy paradox
   * The method adopted was very prescriptive about *how* (e.g., process, tools, techniques), but hands-off in relation to *what* and *why*, as it wanted to promote autonomy and employee engagement.
   * At the same time, errors were made and opportunities missed, and perhaps a stronger sense of (strategic) control should have been ensured.

**References**

Anand, G., Ward, P.T., Tatikonda, M.V. and Schilling, D.A. 2009. Dynamic capabilities through continuous improvement infrastructure. *Journal of Operations Management*, 27(6), 444-461.

Aoki, K. (2020), The Roles of Material Artifacts in Managing the Learning–Performance Paradox: The Kaizen Case, Academy of Management Journal, 63(4): 1266-1299.

Bhasin, S. and Burcher, P., 2006. Lean viewed as a philosophy. Journal of manufacturing technology management.

Catena, R., Dopson, S., and Holweg, M. 2020. On the tension between standardized and customized policies in health care: The case of length-of-stay reduction. *Journal of Operations Management*, 66(1-2), 135–150.

Johnson, M., Burgess, N., and Sethi, S., 2020. Temporal pacing of outcomes for improving patient flow: Design science research in a National Health Service hospital. *Journal of Operations Management*, 66(1-2), 35-53.

Melnyk, S. A., Stewart, D. M., & Swink, M. 2004. Metrics and performance measurement in operations management: Dealing with the metrics maze. *Journal of Operations Management*, 22: 209-218.

Melnyk, S. A., Hanson, J. D. & Calantone, R. J. (2010) Hitting the Target…but Missing the Point: Resolving the Paradox of Strategic Transition. Long Range Planning, 43 (4): 555-574.

Netland, T.H., Schloetzer, J.D. and Ferdows, K. 2015. Implementing corporate lean programs: the effect of management control practices. *Journal of Operations Management*, 36, 90–102.

Neuhaus, K., & Guarraia, P. (2007). Want more from lean six sigma? (pp. 1–3). Boston, MA: HBS Publishing Newsletter.

van der Steen M.P. and Tillema S. 2018. Controlling lean manufacturing in multidivisional organisations: Highlighting local interests and constraints, *International Journal of Operations & Production Management,* 38(11), 2149-2168.

Wemmerlöv U. 2020. The retrospective determination of process improvement's economic value at the individual manufacturing firm level: Literature review and proposed measurement framework. *Journal of Operations Management,* forthcoming.

1. Although “lean” has many meanings, in this paper we use this term to reflect a programme based on Toyota Production System (TPS) principles. [↑](#footnote-ref-1)