

An introduction to Kaizen in health care

ABSTRACT

Kaizen is a Japanese word with two parts: 'zen' meaning 'good' and 'kai' meaning 'change', translating literally as 'good change' or 'improvement'. Kaizen or continuous improvement-based approaches have been applied to many industries including health care. Kaizen principles include that everyone should be involved in daily improvement, that managers and front-line staff work together and that solutions should be small and incremental. Implementing Kaizen can have a strong influence on organizational culture including medical engagement, as highlighted through key case studies. One obstacle to successful change is the culture of organizations involved. This article highlights the potential for Kaizen as an agent for change in the NHS.

and improvement of services concluded that medical engagement is part of the cultural change needed within the NHS (Clark and Nath, 2014).

While much literature highlights the importance of medical engagement to create cultures that deliver sustained high-quality, safe and efficient services there is less written about what good engagement looks like. A notable feature of the Northumbria Healthcare NHS Foundation Trust, recognized as an 'outstanding' trust by the Care Quality Commission (2016), is that there is a strong sense of partnership between medical leaders and managers – a leadership duality where each respects the contribution of the other (Clark and Nath, 2014). Physicians and health-care managers who work together to study and apply the principles of continuous improvement may come to realize better efficiency, greater effectiveness, lower costs, and the gratitude and loyalty of more satisfied patients (Berwick, 1989).

Small changes, systemic improvement

The need for cost-effective care is increasing with the 2022–23 NHS funding gap forecast to reach at least £20 billion (Nuffield Trust et al, 2017). Considering the enormity of this deficit, it may be intuitive to think that radical changes are needed. While this may be true, ambitious initiatives such as the North East Transformation System scheme, which aims to achieve a step change in the quality of health services, have had mixed reviews (Hunter et al, 2015). The NHS would benefit from an approach to transformational change that enables it to be more responsive to changing health-care needs and expectations (Hunter et al, 2015).

Therefore, the value in small interventions lies within the speed at which they can be implemented. For example, when lean principles were applied using a 1–5-day rapid improvement workshop involving frontline caregivers and managers, three out of four emergency departments saw a reduction

Kaizen is a Japanese word with two parts: 'zen' meaning 'good' and 'kai' meaning 'change', translating literally as 'good change' or 'improvement' (EVS Translations, 2014). The philosophy was pioneered by Dr W Edwards Deming who helped rebuild Japan after World War II (Deming, 2000). Deming told manufacturers to ask themselves one question everyday: 'What extremely small step can I take to improve the process or product?' (Maurer, 2014).

Kaizen is used by some companies under synonymous names such as continuous quality improvement, as part of a lean-based approach. Kaizen principles lie at the core of lean management, a practice that aims to reduce waste, improve efficiency and quality (Kettering University, 2017). Kaizen or continuous improvement-based approaches have been applied to a multitude of industries including health care (Deming, 2000; Dickson et al, 2009; Miller, 2010; Clark and Nath, 2014; Mazzocato et al, 2016; Virginia Mason Medical Center, 2017).

Kaizen as a culture

Continuous improvement is not an objective to achieve but rather a way of thinking

and working that should become self-reinforcing (Surak, 2017) – a culture. The Kaizen philosophy includes principles that are applicable to health care: everyone is involved in daily improvement (Imai, 1991), managers work together with front-line staff (Clark and Nath, 2014), and the solutions should be small and incremental (Kettering University, 2017). By focusing on small, incremental changes, everyone at all levels of the NHS could be actively engaged in thinking about how improvements can be made on a daily basis.

Kaizen is implemented by using practices that encourage staff to suggest improvement ideas and solve problems through, for example, 'Kaizen events' or employee suggestion campaigns (Mazzocato et al, 2016). Kaizen is a strong influence on culture, which has the capacity to drastically improve efficiency, adaptability, morale and, most fundamentally, patient care.

The rise of managerialism within health-care systems has been noted globally (Traynor et al, 2014). While it is important for inspection and discipline to continue, reliance on these as an agent for change has been shown to add costs and slow progress improvement in other industries (Berwick, 1989). A focus on the individual as a source of trouble or focusing on identifying 'bad apples' can serve as a distraction from more complex systemic problems (Traynor et al, 2014), as reported in the recent case involving Dr Bawa-Garba (McCartney, 2018). A report by the King's Fund on four NHS trusts with high levels of engagement from doctors in management, leadership

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in length of stay of patients (Dickson et al, 2009). The immediate results were also greater in the emergency departments in which the frontline workers were actively participating in the lean-driven process changes. With the advancement of technology, the world is moving at a rapid pace, making the most successful organizations the ones that are able to adapt (Surak, 2017). With a workforce of 1.2 million (NHS Digital, 2018), the NHS has incredible potential to collectively establish agility and capacity for rapid change within its organizations.

Virginia Mason Medical Center is a powerful example of the systemic impact of Kaizen initiatives in health care. A thought leader in continuous quality improvement, they applied lean manufacturing principles to health care, naming it the Virginia Mason Production System. Since adopting this system, Virginia Mason has conducted 3127 Kaizen activities involving more than 5500 team members and many patients (Virginia Mason Medical Center, 2017). One improvement involved nurses, resulting in an increase in patient contact time from 35% to 90% by redesigning the flow of work (Miller, 2010). A simple adjustment, the restructure reduced nurse walking distance by 750 miles per day freeing 250 hours of time spent walking for patient care (Virginia Mason Medical Center, 2017).

Conclusions

While there is evidence for Kaizen systems in the United States, a focus on lean health-care initiatives is starting to emerge in the NHS (NHS Improvement, 2018). Lean management systems may provide a tool to engage frontline staff and executive teams, requiring cooperation and team work among those at all levels in an organization to sustain continuous improvement. NHS Improvement (2018) has acknowledged the potential for lean systems and has introduced a new 3-year lean programme to support six NHS trusts, which started in 2018.

One of the biggest obstacles for successful change is the culture of the organizations involved (Dougall et al, 2018). Through adopting Kaizen within organizational culture, the NHS will be in a stronger position to capture improvement opportunities to reduce waste and improve efficiency. The agility to continuously improve requires nurturing systems that engage staff at all levels in quality improvement, bringing about lasting change for improved outcomes and better performance. **BJHM**

Conflict of interest: Miss S Goyal is an Associate at ImproveWell and Ms E Law is a Director at ImproveWell, which is a staff engagement tool that drives quality improvement processes in healthcare.

- Berwick DM. Continuous improvement as an ideal in health care. *N Engl J Med*. 1989 Jan 05;320(1):53–56. <https://doi.org/10.1056/NEJM198901053200110>
- Care Quality Commission. 2016. Provider: Northumbria Healthcare NHS Foundation Trust. (accessed 1 August 2018). <https://www.cqc.org.uk/provider/RTF>
- Clark J, Nath V. 2014. Medical engagement: A journey not an event. (accessed 31 July 2018). https://www.kingsfund.org.uk/sites/default/files/field/field_publication_file/medical-engagement-a-journey-not-an-event-jul14_0.pdf
- Deming W. 2000. *Out of the crisis*. London; Cambridge, Massachusetts: MIT Press.
- Dickson EW, Angelou Z, Vetterick D, Eller A, Singh S. Use of lean in the emergency department: a case series of 4 hospitals. *Ann Emerg Med*. 2009 Oct;54(4):504–510. <https://doi.org/10.1016/j.annemergmed.2009.03.024>
- Dougall D, Lewis M, Ross S. 2018. Transformational change in health and care: reports from the field. (accessed 1 August 2018). https://www.kingsfund.org.uk/sites/default/files/2018-05/Transformational_change_Kings_Fund_May_2018_0.pdf
- EVS Translations. 2014. Kaizen. (accessed 20 February 2019). <https://www.evs-translations.com/blog/kaizen/>
- Hunter DJ, Erskine J, Small A, McGovern T, Hicks C, Whitty P, Lugsden E. Doing transformational change in the English NHS in the context of “big bang” reorganisation. *J Health Organ Manag*. 2015 Mar 16;29(1):10–24. <https://doi.org/10.1108/JHOM-01-2014-0019>
- Imai M. 1991. *Kaizen: the Key to Japan's Competitive Success*. New York: McGraw-Hill.
- Kettering University. 2017. How Kaizen and Lean Manufacturing Work Together. (accessed 25 February 2019). <https://online.kettering.edu/news/2017/01/05/how-kaizen-and-lean-manufacturing-work-together>

KEY POINTS

- Kaizen or continuous improvement is a way of thinking and working – a culture.
- Kaizen principles can encourage medical engagement through strong partnership between managers and front-line staff.
- The system should be designed to enable staff to rapidly implement small changes.
- Adopting a Kaizen approach may allow the NHS to capture opportunities to improve efficiency and reduce waste.

- edu/news/2017/01/05/how-kaizen-and-lean-manufacturing-work-together
- Maurer R. 2014. *One small step can change your life*. New York: Workman Publishing.
- Mazzocato P, Stenfors-Hayes T, von Thiele Schwarz U, Hasson H, Nyström ME. Kaizen practice in healthcare: a qualitative analysis of hospital employees' suggestions for improvement. *BMJ Open*. 2016 Jul;6(7):e012256. <https://doi.org/10.1136/bmjopen-2016-012256>
- McCartney M. Clinical errors need a systemic response. *BMJ*. 2018 Feb 26;360:k812. <https://doi.org/10.1136/bmj.k812>
- Miller D. 2010. VMPS Facts. (accessed 31 July 2018). <https://createvalue.org/wp-content/uploads/2013/11/case-study-virginia-mason.pdf>
- NHS Digital. 2018. NHS Workforce Statistics. (accessed 31 July 2018). <https://files.digital.nhs.uk/EF/316A87/NHS%20Workforce%20Statistics%2C%20March%202018%20Bulletin.pdf>
- NHS Improvement. 2018. Lean programme. (accessed 1 August 2018). <https://improvement.nhs.uk/resources/lean-programme/>
- Nuffield Trust, the Health Foundation, The Kings Fund. 2017. The Autumn Budget Joint statement on health and social care. (accessed 25 February 2019). <https://www.nuffieldtrust.org.uk/research/autumn-budget-2017>
- Surak Z. 2017. The continuous improvement leader: Engaging people for a digital age. (accessed 31 July 2018). <https://www.mckinsey.com/business-functions/operations/our-insights/the-continuous-improvement-leader-engaging-people-for-a-digital-age>
- Traynor M, Stone K, Cook H, Gould D, Maben J. Disciplinary processes and the management of poor performance among UK nurses: bad apple or systemic failure? A scoping study. *Nurs Inq*. 2014 Mar;21(1):51–58. <https://doi.org/10.1111/nin.12025>
- Virginia Mason Medical Center. 2017. Fast Facts Virginia Mason Production System. (accessed 1 August 2018). https://www.virginiamason.org/workfiles/pdfdocs/press/vmps_fastfacts.pdf

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