

Eliminating waste, cutting costs and minimising harm



Prof Morgan Chetty,
Visiting Prof: Health Sciences, DUT
chairman, IPAF, CEO: KZN DHC

LEAN is a set of operating philosophies that help create maximum value for patients by reducing waste emphasises the consideration of customers' needs, employee involvement, continuous improvement, and harm reduction.

T HIS CONCEPT AIMS to fundamentally change the organisations thinking and value, which should lead to the transformation of organisation behaviour and culture over time. Originally there were '7 Wastes of LEAN' which were categorised by Taiichi Ohno, one of the fathers of the Toyota Production system. He separated the waste he saw, into seven categories, which made them easier to identify and eliminate.

Over time the LEAN Philosophy changed to accommodate new situations and learnings. As such, an eight waste was recognised and added in the early 2000's. The 'Waste of human potential' or the 'Waste of talent'.

Based on the Toyota model, it focuses on how new efficient resources are being used and asks what is being added for the customer in every process. Recently the healthcare industry has shown success in applying these principles in the United States, United Kingdom, Australia and now Canada. The principle of LEAN was proposed as a solution to the unsustainable increases of healthcare costs. The principle and aim were to rein in costs and add value to patients.

Essentially LEAN in healthcare aims to continuously improve by minimising waste in every process, procedure, and task. "Using the LEAN principle, all members of the organisation from clinicians to operations and administration staff, continuously strive to identify areas of waste and eliminate anything that does not add value to the patients." [NEJM Catalyst: April 27, 2018]

One of the areas of focus is increasing 'customer's' (patients and payer) satisfaction. The Foundational Principle of LEAN Philosophy is to end waste at every level of the organisation and 'LEAN thinking' requires buy in from every team member for it to be successful. This embeds into the organisation's culture and promotes innovations at every level.

By adopting LEAN healthcare strategies, organisations are also improving patient satisfaction, as decisions and processes become more and more patient focused. The healthcare Industry adopted LEAN as a positive solution to this rising demand for improved healthcare quality while managing costs. To be successful both

the healthcare providers and managers in the microlevel, as well as healthcare policy makers in the macrolevel, strive to figure out how to improve healthcare outcomes for all stakeholders. LEAN principles have shown to be one of the most future promising means to achieve this aim. Despite indications that LEAN benefits healthcare, many researchers regard its implementation to be pragmatic, patchy, and fragmented. The application of LEAN management in healthcare can also be holistic such as transformation of an overall business strategy. With the lack of knowledge and misunderstanding of the preconditions of LEAN implementations in the healthcare Industry, practitioners have adopted tools in several processes which have resulted in the anticipated outcomes, though it is limited at this stage. Gomez *et al* (2010) pointed out that by optimising only one process in the entire value chain, sub optimising components would be at risk and eventually affect the entire value chain."

Implementing LEAN in an isolated process would undermine the overall LEAN efforts in the healthcare organisation. Errors and mistakes in healthcare can be all parties since human life is at risk. As reported by Kohn *et al* (2000) nearly 90 000 patients admitted to hospitals lost their lives because of preventative medical errors and nosocomial infections.

Wagner (2004) identifies in hospital errors, as one of the leading causes of death in the United States. This stresses the need for healthcare organisations to incorporate LEAN management principles and integrate operations management to improve overall performance and minimise or eliminate harm during delivery of healthcare.

LEAN in healthcare goes beyond efficiency, it's about creating a culture of continuous improvement and patient centric care. [Lisa Chang]

John Roberts a LEAN consultant for hospitals adds, "The key is to view the healthcare system from the patient's perspective and continuously ask how we can deliver more value."

CHALLENGES AND SOLUTIONS

Adopting LEAN in healthcare comes with the challenges – of which one is the complexity of healthcare systems, and the

variability of patients' needs. To address this, many of the organisations have employed cross functional teams to map out patients journeys and show efficiencies. A major challenge is resistance to change, which can be overcome through effective communication and involving staff at all levels in LEAN initiatives.

IMPACT ON PATIENT CARE

Implementing LEAN principles has significantly improved patient care by reducing wait times and enhancing the accuracy of diagnoses and treatment through streamlined processes. Scientifically structured care pathways reduce harm and mitigate risks and adverse events, decreasing morbidity and mortality in facility-based interventions. In the rural environment, better supply chain management meant that patients always had access to the necessary medical supplies, improving overall care quality and safety.

LEAN METHODOLOGY IN HEALTHCARE

Cut out the 'eight waste' Implementing LEAN in healthcare can reduce waiting and idle times by addressing the eight wastes.

Patients sitting in waiting rooms, meetings stalled for late comers, appointment waiting lists and idle high-tech equipment are all areas that are opportunities for healthcare organisations to tap the creativity and imaginations of their teams to reduce waste. Minimal inventory represents tied up capital and storage costs, surplus supplies and medications superfluous equipment extraneous data or stockpiles of preprinted forms, all translate to inventory waste. Employees can be trained to recognise excessive inventory and find novel ways to reduce it.

Eradicate defects to improve quality and increase reimbursement Process or system failures, medical mistakes and misdiagnoses are examples of defect waste in healthcare. Other examples of defect waste include healthcare acquired conditions such as blood clots and infections, medications or surgical errors, avoidable readmissions, preventable allergic reactions, and incomplete erroneous medical records. LEAN principles advocate to mobilise

every employee to eradicate defect waste and improve quality to positively impact the bottom line and most importantly avoid mistakes.

TRANSPORTATION

Decrease the movement of patients, supplies, and equipment to improve patient flow. LEAN thinking can be used to analyse patient and caregiver movement through hospital facility to save time, reduce injury and improve patient flow.

PREVENT INJURIES AND SAVE TIME BY REDUCING MOTION

Waste in motion occurs whenever hospital workers perform movement within their workplace that does not add value for patients. This can include increased walking due to poor building design or non-ergonomic patient transfers between beds, wheelchairs or operating tables are potential instances of motion waste. Duplication of tests, extending hospital stays beyond medical necessity are all issues that healthcare organisations can apply the LEAN principles.

REMOVE WASTE FROM OVER-PROCESSING

Over-processing occurs when unnecessary work goes into treating patients. By viewing all processes through the lens of LEAN healthcare, staff can help identify repetitive, redundant, or less than valuable processes to save time and money. Understand how healthcare waste leads to untapped Human Potential – THE PINNACLE OF WASTE IN HEALTHCARE.

When workers time is consumed by any of the above, they are unable to use it to leverage their creativity and talents for work that promotes patient care and

optimised operation. Adopting a LEAN culture not only leads to improvements in care quality and decreased costs, but it also leads to improved employee morale and commitment. "As healthcare continues to evolve the adoption of lean principles offers promising pathways to meet the challenges of an increased complex healthcare landscape, ultimately leading to better patient outcomes and more sustainable healthcare systems." Clive Hays, LEAN agile leadership expert. **MC**