



Time for a diet? Lean methodology in healthcare



Lean is an improvement philosophy made famous by the Toyota Motor Company. In the last decade and a half, Lean thinking was extended to healthcare. It must be emphasised that Lean is not all about a set of guidelines that if complied with, will predictably result in better health delivery. Successful Lean implementation requires "immense institutional culture change" combined with innovative leadership and motivated frontline healthcare professionals, according to an article published online in the journal CHEST.

What makes Lean different from other QI methods is that it focuses on waste reduction. Lean begins by studying a process and eliminating or at least reducing steps that are wasteful. Thus, Lean principles divide activities into either value added (VA) or nonvalue added (NVA). VA activities contribute directly to satisfying the customer's needs. By contrast, NVA activities take time, space, or resources and do not meet the customer's needs. In healthcare, the customer is the patient, and waste, or NVA processes, are viewed from the patient's perspective.

The "5S method" – a visual workplace management technique – is among the more common tools used with Lean strategy. This tool is based on these concepts: Sort (identify the items required to do the work, discard what is not needed); Set in Order (place the items in the order of flow); Shine (keep the work area clean); Standardise (roles/tasks of workers are defined to help achieve targets); and Sustain (the personal discipline required to achieve the first four steps).

Some types of waste that Lean seeks to reduce or eliminate include:

- Overproduction: Doing more than what is needed or doing it sooner than needed. Example: unnecessary diagnostic procedures or too many laboratory tests.
- Transportation: Needless moving of patients, specimens, or materials throughout a system, often resulting from a poor layout. Example: an ICU located a distance from the radiology department.
- Overprocessing: Describes work not valued by patients, or caused by rules that are not aligned with patients' needs. Example: filling out multiple forms at every clinic visit.
- Inventory: Excess inventory, storage, movement, spoilage, or waste all bear a cost. Example: letting supplies expire, necessitating disposal.
- Waiting for anything is waste.

According to the article, an improvement process typically begins with a Kaizen, which roughly translates from the Japanese as "change for better." Also called kaizen event, kaizen workshop, or rapid improvement event, it typically begins several weeks before the actual improvement activities. An "improvement team" of six to 10 frontline healthcare professionals are selected, as are measures

and targets. Support and logistics are organised so that the team will operate with minimal barriers. The event typically takes 2 to 5 days.

The team then visits the workplace to observe first-hand how the process operates. A "flowchart" is created that depicts visually every step necessary to complete the process from beginning to end. The aim is to shorten the time from beginning to end by eliminating NVA steps. Implementation of the "new or streamlined" process may be met with some resistance, especially as the transition to Lean thinking invariably causes vast changes in how workers and managers perceive their roles in the organisation and their relationships to the product (i.e., critical care).

"Change is hampered because improvement ideas invariably cross departmental lines, creating further resistance. Leadership support is essential to help overcome this opposition," the article says.

Essentially, Lean seeks to reduce waste and defects (NVA steps) within healthcare systems by framing all activities in terms of the value they provide to patients. Lean methods engage those closest to work (the frontline healthcare professionals) to improve safety, quality, and service.

"Indeed, Lean's fundamental principles include continuous improvement and respect for people. Nonetheless, success requires empowerment of frontline healthcare professionals emanating from the top of the organisation, which must provide needed funds, personnel, technology, and time," the article explains. "The 'people principle' aspect of Lean is often unrecognised or ignored by senior managers, leaving healthcare professionals feeling forced to change rather than being partners in improvement."

Source: [CHEST](#)

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