



## Lean thinking: A solution for the service sector

Lean thinking has its roots in the manufacturing sector, but it also offers many benefits to the service sector, including healthcare. Around the world, a growing number of healthcare organizations are turning to lean. Why? How could a concept used in automobile assembly plants also work in the patient-care setting? There are three key reasons why lean is beneficial to the healthcare industry and other service subsectors: 1) Lean is founded on the principle of respect for people. 2) Lean focuses on waste reduction. 3) Lean can be a differentiator.

### Respect for people

The original name for Japan's Toyota Production System was the "Respect for Humanity" system. Respect for people is a fundamental principle, and many would argue the most important principle, of lean thinking. The service sector is all about people, identifying their needs, and delivering services to meet those needs in a way that adds value. In the healthcare sector, respect for patients can take many forms. For example, it means designing processes to minimize customer wait times for services. Lean helps us to remove bottlenecks, streamline steps, and improve scheduling to reduce wait times.

At Rouge Valley Health System, one of the earliest lean achievements was a redesign of processes in the preoperative clinic, which patients must visit a few days preoperatively to receive tests and instructions in preparation for surgery. Before lean was introduced, patients spent an average of 7.5 hours at the preoperative visit and walked approximately 493 steps to receive various tests in multiple departments. Many of these patients were scheduled to have hip or knee replacements, so excess walking was a hardship. After a kaizen event to improve the processes, the duration of the preoperative visit was reduced to only 1 to 2 hours and the number of walking steps dropped to 246. The hospital staff did this by making respect for patients their top priority. The staff and doctors changed their processes so that patients stay in one room for most of their visit and various healthcare professionals came to them. A simple visual management system was put in place to track which professionals had been to see patients.

Respect for people also applies to employees. Lean thinking considers it disrespectful to have employees work with inefficient processes that waste time and energy and take staff away from their main role of serving customers. Examples include staff spending time looking for things that they need to do their job such as supplies, equipment, and forms. Lean provides ways to reorganize work areas and improve process flows so that staff can spend more time doing the jobs they were hired to do. This shows respect for the skills and expertise that employees bring to their roles. After Rouge Valley Health System conducted kaizen to improve the organization of its medical inpatient unit, staff satisfaction rose from 35% to 79%.

### Waste reduction

In many parts of the world, healthcare consumes such a large portion of government expenditure that spending cannot continue at its current rate. Today, the Province of Ontario spends 42% of its budget on healthcare. Ontario's Action Plan for Health (2012) states: "Without a change of course, health spending

would eat up 70% of the provincial budget within 12 years, crowding out our ability to pay for many other important priorities..." As a result, government funding increases for hospitals are now limited to approximately 2% per year. However, when inflation, population growth, population aging, and union agreements are taken into account, we are actually facing a net decrease in funding every year.

Lean thinking provides a proven approach to examine processes to identify opportunities for change that can reduce costs while maintaining or improving quality. Lean does this by teaching us how to see and remove waste from processes. Waste is defined as any activity that takes time, space, or resources, but does not contribute directly to satisfying the needs of a customer. Lean is the only improvement methodology that focuses on reducing the non-value-added activity. According to experts, most processes are 95–99% non-value added, meaning that the improvement potential is huge.

There are eight types of operational waste that can be reduced or eliminated by using lean thinking: defects, overproduction, waiting, nonutilized talent, transportation, inventory, motion, and excess processing (DOWNTIME; Figure 1).

<b>Defects</b> Wrong/inaccurate information, rework  Having to re-enter requests or orders because of wrong or missing information  	<b>Overproduction</b> Producing too much too early  Redundant paperwork  	<b>Waiting</b> For people, information or supplies  Patient waiting for appointments  	<b>Non-Utilized Talent</b> Poor utilization of existing talents, ideas, abilities, and skill sets  Poor utilization of existing talents, ideas, abilities, and skill sets  
<b>Transportation</b> Movement of something farther than necessary  Moving supplies/medicine/requisitions, etc. around the hospital unnecessarily  	<b>Inventory</b> Excess stock or things in queue waiting  Medicine or supplies that have expired because of excess ordering and stocking  	<b>Motion</b> Unnecessary motion not required to perform tasks  Moving a patient unnecessarily or looking for supplies, charts, patients, etc...  	<b>Excess Processing</b> Producing things or completing a task not needed  Asking the patient the same question 6 different times  

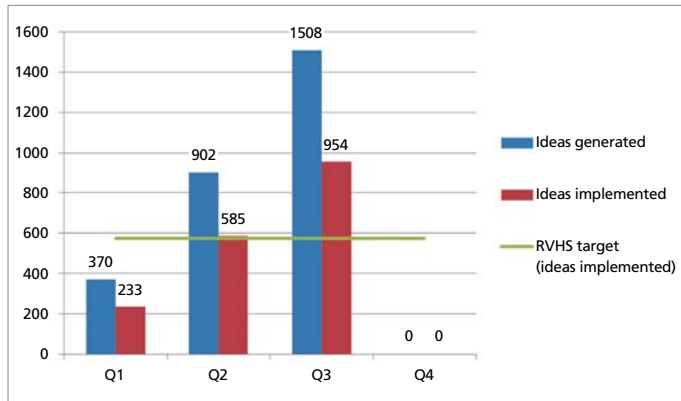
Figure 1. DOWNTIME examples in the healthcare setting.

### Lean as a differentiator

Competitive advantage is critical to the growth and survival of organizations in the service sector. Even those, such as hospitals, that are government funded often must compete for market share and new programs. Lean thinking supports innovation by engaging staff at all levels, but particularly those on the front line of service delivery, to come up with creative ideas to improve processes. Leaders do not have all the answers. Staff who directly deliver services to customers every day are the experts on how things are done and how they could be done better.

Tapping into the knowledge and expertise of staff can result in solutions that set an organization apart from the competition.

At Rouge Valley Health System, all departments are required to have idea boards where staff can post any ideas they have to improve services. The hospital tracks the number of ideas generated and the number implemented (Figure 2). The number of ideas implemented is one of the top 10 metrics reported to the Board of Directors on the hospital's corporate scorecard. Idea celebrations are held to recognize staff for their contributions.



**Figure 2.** Idea generation and implementation in Rouge Valley Health System, April–December 2013.

At Rouge Valley Health System, the hospital's strategic plan states that “we will be seen by industry as leaders in lean management” and “we will transform through innovation, learning, and continuous improvement.” The hospital is proud to promote its commitment to lean and it is highlighted in job postings as a way of attracting talented people who are excited to work in a lean environment.

Lean has evolved from a methodology for the manufacturing sector to an approach that can help to transform the service sector and other industries. By designing processes that respect people and eliminate waste, service organizations can differentiate themselves from their competition and achieve growth and success. 🌀



*Michele James (formerly Jordan), Bsc, MBA, CHE, is the Vice President, Women's and Children's Program, Quality Improvement and Transformation, at Rouge Valley Health System in Toronto, Canada. James joined the hospital in 2008 to develop and execute a strategy for a major operational and cultural transformation. A key component of this strategy was the use of lean thinking as the hospital's management philosophy. In January 2011, she served as a resource person at the APO seminar on Regional Sharing of Lean Applications in Healthcare in Bangkok. James has worked in the healthcare sector for over 25 years.*