HUMAN SIDE OF PATIENT SAFETY

The magic of kaizen

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This lean tool improves processes and reconnects nurses with their core calling.

FOR MORE THAN 20 YEARS, cutting-edge healthcare systems have used lean tools and principles adopted from the Toyota Production System. Ample literature supports the efficacy of these tools in achieving performance-improvement targets.

Although the impact of lean tools on nursing is poorly described, one of these tools—kaizen—has yielded surprisingly positive benefits for nurses at Orlando Health in Florida. How could a car-manufacturing philosophy benefit nurses? To answer this question, we'll examine structured kaizen events and the cultural foundation of lean tools.

A Japanese term, kaizen means change for the better. It originated as a philosophy of continuously striving for perfection through small incremental improvements. In the United States today, kaizen commonly refers to a concentrated workshop, usually lasting 3 to 5 days, where a multidisciplinary team comes together to evaluate and improve a process. Workshop agendas vary in length but have the same essential components.

Going to the gemba

To get started, team members need to thoroughly understand the current process of the problem they're addressing by observing it directly with fresh eyes. So the first step is to go where the work actually happens, termed the gemba. For example, a kaizen team investigating the stroke alert process would visit the gemba of the emergency department and follow a stroke patient through each step of his or her journey.

Next, the kaizen event facilitator helps the team map each step of the process visually, so team members can view and collectively understand all steps. In the gemba, they critically observe each step to identify problems and waste. (See *Value vs. waste.*) To fully understand the problems, the facilitator leads a root-cause analysis, asking "why" repeatedly until the team identifies the fundamental cause.

It's human nature for the team to want to skip some of these steps and jump to solutions. But early solutions may be inappropriate if true problems aren't identified and understood—just as prescribing a patient's treatment is inappropriate until clinicians establish a diagnosis.

Imagining the future state

Next, the team is unleashed to imagine ways to improve the future state of the problem they're addressing. The facilitator guides the team in developing the improved future state, which they map visually. When developing this new process, the team returns to the list of problems and waste to ensure these have been addressed and eliminated. As they do this, they develop an action-item list for the future state so they can gain a clear project plan to make needed changes.

Combining continuous improvement with respect

Kaizen illustrates the tenets of the lean philosophy: continuous improvement and respect for people. In the Toyota Production System, these concepts are inseparable. Attempts to replicate Toyota's continuous improvement tools without establishing a culture of respect for people have failed repeatedly. At Toyota, the

management philosophy is rooted in the belief that frontline team members know the work best. Thus, they are empowered—and expected—to stop production if they identify a problem. Managers are responsible for coaching team members to continuously improve their problem-solving abilities. The goal of this culture of respect is to develop exceptional employees and teams and to "grow" leaders who truly understand the work and this philosophy.

Entrusting frontline team members

In a kaizen workshop, the leader shows respect for people by entrusting frontline team members to develop a solution to the identified problem. Team members represent every discipline or role involved in the process. During the workshop, no hierarchy of authority exists; a business office worker, pharmacist, nurse, and physician are equals. This provides psychological safety, which gives everyone confidence that they're having an honest discussion about the problem. Each team member sees the impact of everyone's contributions to the process—perhaps for the first time. Throughout each step of the event, the facilitator coaches and guides the team in problem solving.

When the event ends, leaders support the team by attending the presentation delivered to them and other attendees on the final day of the workshop and by publicly applauding the team for their work. Leaders are responsible for supporting the team as they implement the future state by removing barriers and coaching for continuous improvement and problem-solving.

Value vs. waste

The lean philosophy aims to maximize value while minimizing waste.

Value

Value refers to activities or processes that improve aspects of the patient's health or experience of care that the patient perceives as important. Here are some examples.

- For a patient experiencing a myocardial infarction with ST-segment elevation, the *values* are clearing the artery of a blockage and returning coronary blood flow to normal.
- For a patient experiencing migraine, the *value* is pain relief.

Non-value-added but necessary

Some work, effort, or activities are necessary but don't add value to the patient; they're required until some innovation comes along. For the two patients described above, hospital registration and diagnostic tests fall into this category. For registration, a future innovation might include smartphone scanning for personal and insurance information. For diagnostic tests, emerging research could help eliminate or improve the speed or ease of current testing.

Waste

In lean philosophy, waste refers to time, effort, or resources that add nothing to a patient's care. The DOWNTIME mnemonic below summarizes the categories of waste and gives examples for each category.

Defects: patient harm, medication errors, mislabeled laboratory samples, reworking of a process
Overproduction: unnecessary diagnostic tests, multiple forms asking for the same information, procedural case carts batched at the start of the day
Waiting: waiting of any kind, typically caused by poor communications, work absences, inadequate staffing
Nonutilized or underutilized talent: unwillingness to consider an idea, lack of teamwork, poor management that limits the chance for all team members to be problem solvers
Transport: moving patients from floor to floor for testing, discharge delays
Inventory: having too much inventory; for instance, stocking medications or supplies that will expire before they can be used
Motion: excessive movement expended to complete a task, such as having to search for supplies
Extra processing: unnecessary effort expended to complete a task, such as duplicate charting

Building connections

Although we've described the basic ingredients of kaizen, the magic comes from participating in the workshop. Kaizen events create an environment for nurses to build new connections and experience true teamwork. Nurses too often work in "silos." When we take the time to walk in someone else's shoes, we gain respect for the challenges our colleagues face in their daily work.

Here's an example of how a kaizen workshop can forge connections: Staff from two physicians' practices had worked together with staff from a hospital procedural area for years through phone calls and scheduling software—but they'd never met in person. A kaizen event was planned to improve the process for scheduling patients for hospital procedures and enhance procedural efficiency to decrease patient wait times. When all staff members came together for the event, one nurse exclaimed, "Wow! It's great to finally put a face to each name." The simple act of meeting face-to-face and working side-by-side on a shared goal created a foundation for solving common problems.

Setting aside time for concentrated problem solving is an extremely effective use of the nurse's time. Gaining a clear understanding of the current state from observations and mapping of the process in question, the team can assimilate more information than they could in a series of meetings spread out over weeks or months. One nurse remarked, "Originally, I thought this was going to take so much time, but we accomplish so much more with this process than with the traditional problem solving I'm used to."

In one kaizen event spanning several hospital departments, more than 30 steps were removed from a process in question, resulting in greater efficiency. This bettered the lives of both the patients and team members.

Waste and broken processes can have a profound and cumulative detrimental effect on nurses doing the work. When nurses and other team members begin to see and believe their work will improve, the experience is deeply emotional.

Improving daily work processes

One nurse regularly uses the kaizen skills she has gained to improve her daily work processes. Participating in the kaizen event has changed her practice. "I try to imitate the design of the event at most meetings or taskforces that I facilitate," she said. Once a nurse learns to see waste, she can't unlearn that skill.

Reconnecting nurses with our core calling

Kaizen reconnects nurses with our original calling to patient care. During a kaizen event, we see value and waste through patients' eyes. Nurses in some kaizen events have chosen to give the patient whose experience they were mapping on the wall a particular name (not the patient's real name) to personalize the conversation around that patient. Doing this dramatically changes the tenor of the event.

For example, when the team examined the stroke alert process, they named the patient Mary—the name of one team member's mother. Team members found unnecessary delays in Mary's treatment unacceptable. Personalizing the patient and learning to see and eliminate waste increased their motivation to reduce treatment time for Mary by more than 50%. The nurses and other team members were gratified they could offer patients this level of care. Ideas they'd once seen as too challenging to implement they now viewed as both possible and essential.

Lean principles are aligned with the Magnet® Model components of structural empowerment; transformational leadership; new knowledge, innovation, and improvement; and explemplary professional practice. Collaboration and interdisciplinary relationships fostered during kaizen events improve the image of nursing and reconnect nurses with our core focus of continuously improving patient outcomes and experience.

Kaizen and other lean principles have been integrated into health care slowly. Why? Nurses and other clinicians have struggled with applying a car manufacturing philosophy to the complex work of patient care. It's time to overcome this reluctance and embark on the journey to understanding the true Toyota philosophy, which marries continuous improvement with respect for people. Patients and nurses alike can benefit from the magic of kaizen. ✯

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