

Toyota philosophy works in the ER

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NEW YORK (Reuters Health) - Emergency rooms may be able to give patients faster and better care by applying some of the same principles that have worked in Japanese car manufacturing, a new study suggests.

The study looked at four U.S. emergency departments that have tried out their own versions of a process improvement strategy pioneered by Toyota in the 1970s.

The principles -- commonly known as "Lean" -- seek to minimize waste and inefficiency and produce a higher-quality product. In recent years, there has been increasing interest in whether the same philosophy that creates a better car can also create better health care.

"We have a fundamental problem in the U.S. health system, and it relates to delivering value to our patients," said Dr. Eric W. Dickson, the lead researcher on the new study and a professor of emergency medicine at the University of Massachusetts Medical School in Worcester.

In the ER, he told Reuters Health, patients' biggest complaint is the long wait time to receive treatment.

According to Dickson, roughly a half-dozen U.S. health care systems, including somewhere between 20 and 30 ERs, have adopted Lean-type principles to try to slash inefficiency and improve quality.

In their study, reported in the *Annals of Emergency Medicine*, Dickson and his colleagues found that the degree of success may depend on how closely ERs adhere to the original Toyota thinking.

Dickson said that there were two key factors. One was that ideas for improvements came from the "front lines" -- the doctors, nurses and others working in the ER -- and not from management. The other was that management, while not dictating change, was actively involved in making sure all employees tried to implement changes.

"Every emergency department is different," Dickson said, explaining that there is no big, "magic-bullet" change that makes ER more efficient. "It's hundreds of tiny changes that add up."

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In his own experience, Dickson said, improvements have come from changes as small as moving waiting-area chairs closer to the nurses doing triage -- the process of prioritizing patients for treatment based on the severity of their injuries and illnesses.

Another traditional area of inefficiency has been the practice of having patients talk with several different staff -- from nurses to medical students to residents -- before seeing the attending physician who will make the decision on their care.

"Patients say, why don't you all come in at the same time, so I can tell my story once?" Dickson said. Having a "team" talk with patients, he and his colleagues have found, may not only boost efficiency, but also improve medical students' educational experience by allowing them to see senior doctors interact with patients.

Of the four ERs in the current study, three showed improvements in patients' average length of stay one year after starting Lean-based changes. At one hospital, for example, the average length of stay declined from 459 minutes to 376 minutes.

There were also some improvements in patient satisfaction. At one hospital, the percentage of patients who rated their ER care as "very good" rose from 54 percent before Lean, to 61 percent two years after it was begun.

The ER that failed to see improvements was the one that least adhered to Lean ideas. Dickson said he believes there is enough evidence that Lean works in health care for more hospitals to look into adopting the approach.

"Health care in this country desperately needs to be re-engineered," he said. "This is a philosophy that can be applied anywhere in health care."

The author of this piece is Amy Norton