

Toyota's management practices may improve the quality of hospital care

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Researchers have long surmised that management techniques successful in manufacturing and technology sectors may improve health care quality. However, there has been very little evidence about how these practices are disseminated in hospitals and whether they are associated with better performance.

A new study led by Oregon Health & Science University (OHSU) health economist K. John McConnell, Ph.D., reveals manufacturing management practices, including Toyota's "Lean" methodologies, may be beneficial in helping hospitals achieve "high-quality health care outcomes." The findings are published online in *JAMA Internal Medicine*.

"Although a lot of effort has been focused on the use of evidence-based medicine to improve the quality of clinical practice with some important successes, our study results suggest implementing organizational strategies and management practices that enable and incentivize high-quality health care may also be beneficial," said McConnell, an Associate Professor of Emergency Medicine at OHSU, and Director of OHSU's Center for Health Systems Effectiveness.

To conduct this research, McConnell and colleagues focused on cardiac units across the country. They adapted an approach used to measure management practices in manufacturing to collect similar data on 597 cardiac units with interventional cardiac catheterization laboratories and a minimum of 25 annual heart attack discharges annually—making it

one of the largest studies ever conducted on management in [health care](#)

The units' nurse managers were surveyed via phone in 2010 and performance scores were calculated based on open-ended questions about whether the unit is a poor, average or high performer in 18 [hospital](#) practices. The practices were broken down into four categories: standardizing care/Lean operations, tracking key performance indicators, setting targets and incentivizing employees. The nurse managers' responses were scored on a scale from 1 to 5, with 5 being the highest.

The researchers then assessed the relationship of management practices with "process of care measures," such as staff communication, patient handoffs and discharges, as well as 30-day readmission and 30-day mortality rates for heart attack patients.

The scientists found wide differences in management practices across hospitals. Fewer than 20 percent of hospitals scored a "4" or "5" (best practice) on more than nine of the 18 practice measures. Higher management practice scores were associated with lower 30-day mortality rates and better performance on [heart attack](#) process of care measures. Higher scores were not associated with lower 30-day readmission rates.

"Many of these manufacturing practices are relatively moderate in scope and do not require substantial capital investment. Our results suggest future directions for hospital [management practices](#) and quality of care," said McConnell.

More information: The study "Management Practices and the Quality of Care in Cardiac Units" was supported by grant 1R01HS018466 from the Agency for Healthcare Research and Quality.

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