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From Volume to Value in Health Care
The Work Begins

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The transition of health care from volume to value is no longer theoretical, or wishful thinking.[1] The work is now under way. In this issue of *JAMA*, the article by Lee et al[2] from the University of Utah provides clear evidence that the work is doable and is worth doing. The report also points to additional steps that can take value improvement even further.

The progress on value improvement reported by Lee and colleagues could not be more timely. Health care is finally entering an era of significant change, and the model for health care delivery is being redesigned from the ground up. Redesign is being accelerated by a long-needed transition in the payment system away from fee-for-service to value-based payments. The Centers for Medicare & Medicaid Services have committed that 90% of Medicare payments will reward value by 2018, and commercial payers are starting to do the same. Bundled payments, which most directly reward both better outcomes and lower cost, are an increasingly important focus for Medicare, Medicaid, private insurers, and major employers such as Walmart, General Electric, and Boeing.[3]

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Related article page 1061

For hospitals and physicians, the period of voluntary experimentation with new payment models is coming to an end. In 2016, the Centers for Medicare & Medicaid Services have made bundled payments for total hip and knee replacement mandatory in 67 regions under its Comprehensive Care for Joint Replacement model and has announced plans to do the same for acute myocardial infarction, coronary artery bypass graft surgery, and femur fractures in even more regions in 2017.[4] The clear message is that hospitals, health care centers, and clinicians should no longer be spending time discussing *whether* to participate in bundled payment programs but instead focusing on *how* to do the work necessary to succeed under them.

The article by Lee and colleagues shows how to start down the path of value improvement and demonstrates the significant results attainable. This article shows that achieving better quality and lower costs is possible, and everyone can benefit: patients, hospitals and physicians, and society. However, it is also clear that value improvement is not business as usual; it is an entirely new way of managing.

The University of Utah Health Care team began with 3 fundamental strategic tenets. First, value improvement became the organization's business model, as opposed to maximizing fee-for-service revenue. This change began in 2012, and as a long-term agenda, the health care organization made substantial investments in new systems for measuring, analyzing, and reporting clinical outcomes and costs at the level of individual patients.

A second key strategic choice was to organize the work around specific patient conditions. The health care leadership understood the limits of the typical approach of targeting "generic" high-cost areas that include all patients, such as reducing readmission. Instead, the real opportunity to drive major efficiencies and improvements in quality occurs through focusing on specific patient conditions and optimizing their care.

Third, the organization created multidisciplinary teams to drive the improvement effort. Leadership recognized that value is created not through specialty silos but through

teams working together to integrate and improve care across the care cycle. Teams included clinicians, administrators, and industrial engineers who jointly defined the key processes for improvement and the metrics to monitor performance.

Based on these principles, University of Utah Health Care set out to make major improvements in measuring costs and quality. The organization invested in a new cost accounting system that provides more accurate assessments of the personnel, space, supplies, and other costs involved in delivering episodes of care. Some of the cost variability was due to variation in patients' circumstances, but much of it reflected variation in clinician practice patterns that were preference driven, not clinically based. While the costing system falls short of the ideal of time-driven activity-based cost accounting,[5] it created a system that substantially improved the ability to measure costs and calculate cost variability than exists at most health care organizations.

In the article by Lee and colleagues, the description of the "opportunity index" (Table 4 in the article) was a breakthrough. This index is a powerful tool for setting initial priorities by identifying diagnoses with the highest total direct costs, the highest coefficients of variation in those costs, and the number of physicians involved (and thus the complexity of changing behavior). Many organizations have difficulty simply getting started on value improvement because they do not know where opportunities are greatest. Every health care leadership team needs its own opportunity index to help decide where to begin. To have a credible index (as in Table 4 of the article by Lee and colleagues), organizations need a credible cost accounting system.

In measuring quality, Lee and colleagues captured standard process measurements and limited outcomes, including mortality and readmissions. Relying on generic measures such as mortality and readmission is only a first step, because mortality is extremely low in most conditions (eg, total joint replacement) and readmission rates do not reflect whether patients' health goals are being met.

Even with limited outcomes and cost data, the results reported by Lee and colleagues are impressive. For total joint replacement, for example, clinical outcomes were improved while costs declined by 11%. One key step toward better quality and efficiency was modifying physical therapists' schedules so that virtually all patients were out of bed on the day of surgery—a change that was associated with a 9.5% decrease in average length of stay. This is the kind of improvement that occurs when teams focus on defined conditions for which patients have similar needs. Such opportunities for improvement are almost impossible to recognize when physical therapy is managed as a single program serving a heterogeneous population as is typical at hospitals.

To take the work even further, the next major step for Lee and colleagues should be the development of true integrated practice units, consisting of co-located multidisciplinary teams—not just to plan process improvement but to actually deliver care for patients with specific conditions. Second, although the organization's initial focus has been on inpatient episodes, the ultimate opportunity is rethinking the full continuum of care. Looking across inpatient care, outpatient care, and rehabilitation will create new opportunities for value improvement. Third, the organization needs to continue its march toward comprehensive outcome measurement, moving beyond generic outcomes like mortality and readmission to functional status, pain, and condition-specific complications. Such data collection has begun, but the results are not entirely apparent in this article—and their improvement should be major focuses of the organization's teams. Fourth, the organizational leadership should be proactive in negotiating bundled payment contracts and other reimbursement models that provide rewards for creating value for patients across the continuum. Such contract arrangements bring all stakeholders into alignment.

The study by Lee and colleagues in this issue of *JAMA* is an impressive and important step forward, not just for the University of Utah Health Care system but for the rest of US health care and other health care systems around the world that are focused on value. The findings offer proof of concept that improving value by patient condition can lead to lower costs and better quality—at the same time. There is much to be done and the road is long, but the report by Lee and colleagues points out how the path begins.

ARTICLE INFORMATION

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