

Orthopaedic Healthcare Worldwide

Bundled Payments in Orthopaedics

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Healthcare spending currently accounts for approximately 18% of the Gross Domestic Product in the United States, up from 13% in 2000. Hospital reimbursement

for total joint replacement (Diagnosis Related Group 470) represented the largest Diagnosis Related Group payment by the Centers for Medicare & Medicaid Services (CMS) to hospitals in 2008, accounting for 4.6% of payments [1]. In light of the billions of dollars CMS pays each year for joint replacement surgery, and the volume of procedures performed, CMS has begun to study different payment models to better control costs and incentivize higher quality care delivery. The current fee-for-service payment model has been scrutinized because it incentivizes increased utilization of services, and costs to the healthcare system, while providing few incentives to improve quality or reduce cost. Modification in the packaging of and payment for care into bundles has been identified as a possible strategy to align the incentives of healthcare stakeholders around value instead of volume.

Four models of bundling payments are being tested by CMS under the

Bundled Payments for Care Improvement initiative, as authorized by the Patient Protection and Affordable Care Act [3]. The objective of bundled payments is to align stakeholders' incentives to improve overall quality of care, minimize cost by making hospitals and physicians financially accountable for postdischarge care, and allow gainsharing between hospitals and physicians across services. Gainsharing refers to an arrangement between a physician or group of physicians and a hospital to share in the cost savings resulting from specific actions taken by providers to improve the efficiency of care delivery without compromising overall quality of care. Examples of specific actions include decreasing costs associated with implants and other supplies, reducing length of hospital stay, avoiding unplanned readmissions, and reducing utilization of postacute care services.

The Acute Care Episode (ACE) Project [4], a 3-year venture undertaken by CMS between 2009 and 2011, bundled payments for both THA and TKA procedures at three hospitals in the United States. The objective of the project was to reduce costs and create an operational framework where any savings that were achieved could be shared between patients, doctors,

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and hospitals. Medicare Part A (hospital) and B (professional) services were bundled for the episode of care starting from admission, and ending with discharge. Each participating hospital-physician partnership agreed to a percentage discount in Diagnosis Related Group payment from CMS (averaging 5%) in return for the ability to gainshare if profits were realized. The surgeon could receive a bonus per case of up to 25% of the professional fee, while patients who participated were eligible to receive a reduction in their Medicare Part B premium.

Specific quality measures were established, which hospitals and physicians needed to comply with in order to qualify for payment. Three oversight groups were established at each hospital — Quality, Finance, and Provider Incentive Program Committees. These oversight groups monitored patient outcomes, accounting/payments, and public concerns, respectively.

Surgeons and administrators at each institution developed an implementation strategy to target areas that would result in cost savings while maintaining or improving quality. Optimizing and standardizing preoperative and postoperative pathways was pursued with an objective of decreasing variability during the hospital stay and reducing the overall length of stay. Discharge planning earlier in a patient's admission was central to decreasing overall

length of stay. Surgeons also negotiated with device vendors to reduce implant pricing. This was recognized as an effective means to reduce overall cost [10].

All three hospitals reduced the overall cost per episode between 10% and 15%. The majority of the savings came from a reduction in implant price paid by the hospital. These savings accounted for a 7% to 10% reduction in overall cost per episode. Some hospitals renegotiated pricing on implants, while others established price caps. Reducing length of stay was another cost-saving measure. Each hospital was successful at reducing overall length of stay for hips and knees, with one hospital reporting a reduction from 3.9 to 3.2 days, and another from 3.5 to 2.8 days. As a result of the cost reduction measures, surgeons at each institution received bonus payments, which averaged between USD 275 to USD 400 per case [4].

The ACE Project demonstrated that it was possible to improve quality and reduce overall cost per episode with surgeon and hospital collaboration and alignment of incentives. The potential benefits to the surgeon included improved patient outcomes, increased volumes, and reimbursements through gainsharing. While the project demonstrated many benefits, there was an initial resistance on the part of some surgeons to participate based on a sense of loss of autonomy, resulting in some surgeons

opting out of the program at one location. However, these issues were reconciled through increased communication and trust following the first year of implementation.

In 2011, CMS launched a new bundled payment project that offered more choices than the 2009 ACE project. Four models of bundled payments were established — three retrospective and one with a prospective payment. Providers selected the bundling conditions and the duration of the episode within predetermined parameters. Interested hospitals were required to submit a nonbinding letter of intent and formal application to CMS. Participants in this program agreed to receive their Medicare fee-for-service payments, but at a negotiated discount, with a minimum discount of 2%. At the end of the episode, the payments would be compared with the discounted payment and the agreed upon gainsharing mechanism would be triggered. If savings were achieved either in the form of revenue or cost savings, then all participating providers are allowed to share in the savings.

The three retrospective bundling models were defined by CMS as Model 1: Inpatient stay only (from admission to discharge); Model 2: Inpatient stay and 30-, 60-, or 90-day postdischarge period, including skilled nursing facility, rehabilitation, home health services, and readmissions costs; Model 3: The

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episode is triggered by a hospital stay, but starts at the discharge from the hospital. It covers skilled nursing facility, rehabilitation, long-term acute care, and home health services. These services must begin within 30 days of discharge, and the period to be bundled is either 30, 60, or 90 days postdischarge. Model 4 is prospective payment (single payment) for both the hospital and physicians (single payment), covering the acute inpatient stay and most readmissions within 30 days of discharge [3].

The Bundled Payments for Care Improvement initiative is still in its early phases. To date, sufficient data does not exist for meaningful evaluation. Model 2, whose episode includes the hospital stay plus services 30 to 90 days postdischarge, has interesting possibilities regarding untapped savings potential. Recently, hospitals and physicians have recognized implant cost as representing a significant component to overall cost per episode. As a result, various pricing strategies have been employed to reduce implant cost per case, such as establishing price ceilings, single vendor agreements, and single price/case price purchasing [5]. The original ACE project demonstrated some of these savings potentials. However, not much attention has been paid to postacute care and rehabilitation facility costs. In his study, Harold S. Luft PhD [8] calculated the pricing

variability in TKA patients, examining both the patient's inpatient and postdischarge care costs. Luft evaluated 4910 patients who had knee surgery between 2003 and 2004. According to Luft, the total cost per episode averaged USD 22,454. Luft found that the average inpatient facility cost was USD 13,189. Rehabilitation facility costs averaged USD 7852, representing 35% of the overall cost per episode.

Similarly, Bozic et al. [2], evaluated episode of care payments for 250 hip and knee replacement procedures, and found that postdischarge payments represented 36% of total episode costs inclusive of the index admission and 30 days postdischarge. This represents a substantial opportunity for cost savings, especially if incentives are aligned between acute care providers (surgeons and hospitals) and postacute care providers (skilled nursing and inpatient rehabilitation facilities).

Concerns have been raised and questions remain regarding the impact on both cost and quality of bundling payments for episodes of care. Acquiring accurate cost data for a joint replacement is imperative in order to calculate a bundled price. Unfortunately, this information can be difficult to collect from a hospital. Healy et al. [6] and Rana et al. [9] provide a framework for collecting cost data for individual total hip and total knee replacement procedures. Both articles

identify 17 cost centers that should be considered when attempting to determine the true hospital cost for a total joint replacement procedure. However, traditional cost accounting methodologies are inherently flawed based on their calculation and attribution of indirect costs. More recently, Kaplan and Porter [7] have introduced the concept of Time-Driven Activity-Based Costing, which can be a powerful tool for evaluating the true costs for an episode of care.

The distribution of cost savings between the surgeons, other physicians/providers involved in the care episode (anesthesiologists), and the hospital is an area that needs to be negotiated prior to undertaking a bundled payment program. Unambiguous gainsharing formulas based on well-defined criteria related to the quality, cost of care, and minimum eligibility volume need to be defined a priori, before entering into a bundled payment agreement. Providers need to specify whether any shared savings will be distributed directly to the participating physicians, or be funneled back into capital investments or care improvement initiatives. With gainsharing, it is imperative that a payment distribution system be established prior to undertaking a bundled payment program. This will avoid any question of how costs savings were distributed during the program. As a result, surgeons and hospitals will not feel as

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though their value is diminished or altered throughout the program. Safeguards need to be put in place to minimize incentives for cherry-picking or skimping on care in order to reduce costs. Finally, the downside risk to both the hospital and the physician needs to be specified up front, in the event that the risk-sharing arrangement results in a net loss to the institution.

The issue of how and when a bundle is reevaluated if and when savings are realized is another important question that needs to be addressed. A law of diminishing returns is realized when efficiencies are maximized and savings can no longer be achieved. At this point there exists the possibility of attempting to increase savings in a way that may compromise patient care.

Value-based payment strategies such as bundled payments offer both risk and opportunity for orthopedic surgeons. It is important to develop an understanding of the historical experience of bundled payments and the current payments models that are being tested. This knowledge along with leadership by orthopedic surgeons will help determine our future success.

While this is a dynamic time, physicians should lead the redesign of our payment and delivery systems in order to improve the value of care we provide for our patients.

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