



## Viewpoint

## Hip and Knee Arthroplasty Alternative Payment Model Successes and Challenges

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A recent commentary was authored by Brad Smith, the former director of the Center for Medicare and Medicaid Services' (CMS) Center for Medicare and Medicaid Innovation (CMMI), in the New England Journal of Medicine [1]. He commented on the lack of success experienced by CMS and CMMI in terms of cost savings, particularly through alternative payment models (APMs) when looking across all specialties in medicine. It is disappointing that the singular success of these programs for hip and knee replacement, driven, led, championed, managed, and overseen by orthopedic surgeons, was left unmentioned.

The combination of total hip arthroplasty (THA) and total knee arthroplasty (TKA) represent the single greatest procedural cost to Medicare, drawing unique administrative attention to those procedures in the transition to value-based medicine (VBM). Over the past decade, the CMS has introduced competition-based hospital measures with significant monetary penalties to achieve reductions in readmissions, costs, and complications such as infection along with goals of improved quality. Among these measures are National Quality Forum (NQF) 1550 (THA/TKA Complications), NQF 1551 (THA/TKA Readmissions), a non-NQF endorsed THA/TKA cost measure, and a soon to be required patient-reported outcomes measure [2]. These measures require that all surgeons and hospitals take ownership of the 90-day global episodes of care. The unique volume and elective nature of THA/TKA has required a significant response from orthopedic surgeons in terms of preoptimization

and risk reduction interventions with resulting decreases in cost, lengths of stay (LOS), and maintenance of quality [3,4].

Concurrently, the CMMI is testing new payment models to transition from fee-for-service to value-based care again over the same 90-day global period. APMs have been introduced including the voluntary Bundled Payment for Care Initiatives (BPCI) Classic and Advanced along with the mandatory Comprehensive Care for Joint Replacement (CJR); the last uniquely targets THA/TKA among all other procedures requiring mandatory participation in a bundled payment program for over 20% of the country. Such APMs have also required a significant response and effort in terms of preoperative preparation and preoptimization that has contributed to drops in cost and LOS [5-7].

Orthopedic surgeons that perform total hip and knee replacement surgery have been on the front lines of this transformation process. Based on earlier studies, it is safe to project that more than 50% of arthroplasty surgeons now participate in some form of bundled payment program. They have become engaged key stakeholders involved in the entire episode of care (EOC) and have significantly reduced costs and maintained or improved quality, in contradistinction to other specialties. The success of the CJR alone is estimated to have saved the Medicare program at least \$63 million between 2016 and 2018 [8].

There has been significant success in the field of lower extremity and reconstruction through BPCI and CJR to date. These successes have been the result of considerable cooperation and collaboration among orthopedic surgeons, hospitals, and payers. According to an April 2019 New England Journal of Medicine article, 42% of Medicare TKA and THA procedures over a 2-year period were performed through CJR [9]. CJR mandatory participants reduced per-episode Medicare spending on TJAs by an average of 4.7% over 2016-2018 [10]. A separate study evaluating the BPCI experience from 2013 to 2016 found that the reduction of cost per episode was 4.44% on average for THA. Furthermore, the study found that when a physician group ran the BPCI episode, there was a statistically significant decrease in cost (4.81%) compared with hospital-run BPCI

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episodes (4.04%) [3]. A third study evaluating the first 21 months of the BPCI initiative for THA and TKA found that Medicare payments declined more for BPCI participating hospitals (\$1166 per episode) than for traditional fee-for-service hospitals without a significant change in quality outcomes [4]. These decreases in the cost of the episode are underestimates because before the introduction of VBM initiatives, TJA episode costs were rising 5% to 10% per year!

For total joint replacement, the key strategy to reduce cost and improve quality has come in the form of preoperative identification and optimization of medical comorbidities, which has been demonstrated to decrease LOS and reduce complications and readmissions. A 2019 *New England Journal of Medicine* study on the outcomes of 280,161 patients in the CJR program found that the mean number of chronic medical conditions for total joint replacement patients was 7 [11]. Understanding the nature and complexity of these conditions as risk factors is critically important to safely navigate a patient through the EOC. Considerable work and time by the surgeon and qualified health professional are required to facilitate, coordinate, validate, and document the assessment and optimization of patients before surgery. These efforts have translated into shorter LOS, a reduction in post-acute care utilization, reduced readmission rates, and no loss of access to care [12].

This substantial amount of time and work rapidly evolved over the last decade to optimize patients preoperatively. This has included added preoperative planning, education, reduction of reversible risks and intensive care coordination. This has had a significant impact on time commitments for surgeons and their clinical staff. Tasks such as preoperative consultations; test result management; preoperative physical therapy and occupational therapy; social work and care management coordination; and phone calls or emails by staff to patients, family, or other providers have all been shifted to the preoperative period from postoperative, especially given the resulting shorter stays in the hospital. The evidence is clear that additional time is spent preparing patients for surgery and that this additional time is spent preoperatively [13–16].

Unfortunately, this necessary added work, time, and effort have shifted to the preoperative period and have not been recognized within the procedural paradigm of American Medical Association Multispecialty Relative Value Update Committee (RUC), which has a narrow 1-day preoperative window within its 90-day global assessments. In 2020, CMS approved a 3.4% reduction in the Medicare Physician Fee Schedule payments for TJA specifically [17]. This was after a 2019 RUC survey which contained 206 nonconflicted responses and indicated an additional 30 minutes of preservice time theoretically could have been added to the work relative value unit calculation. The RUC did not agree with adding this time because it was work outside (before) the limited preoperative global period. Paradoxically, however, in the summary submitted to CMS, “the RUC agreed that the preservice planning activities did occur.” With regard to the preservice clinical staff time, an additional 30 minutes was also recommended based on survey responses, which the RUC rejected even though they had access to the objective results. In the 2021 final rule for the Medicare Physician Fee Schedule, CMS agreed that this added work is occurring but suggested the development of new evaluation and management coding for its capture [18]. Such new codes could take years to develop.

Orthopedic surgeons have been at the forefront of value-based care and the transition to APMs. The care delivery changes, and favorable results are clearly documented in extensive peer-reviewed literature [19–21]. They have redesigned care delivery for hip and knee replacement surgery, resulting in shorter hospital LOS, diminished utilization of post-acute care facilities, lower rates

of complications, and lower hospital readmissions with an overall reduction of cost for the EOC.

The authors challenge CMS and CMMI to acknowledge the unique success of orthopedic surgeons in their efforts to meet the challenges made by their value-based purchasing and APMs. Such acknowledgment is absent in the recent commentary by Smith. The challenge also includes recognition of how inappropriate it is to penalize surgeons by decreasing payment for THA and TKA surgery because they succeeded in delivering the reductions in cost and LOS expected of them. They have created contradictory signals for further participation within the APMs, which orthopedic surgeons have embraced (with over 50% participation), and have been innovators.

Going forward, if ongoing savings are to be generated and quality maintained, CMS/CMMI need to realize that current RUC methodology needs to evolve to capture the real calculus of VBM. In addition, clear, wide-ranging safe harbors for surgeon comanagement with their hospitals need to be created to allow for further innovation.

### Conflicts of interest

The authors declare that there are no conflicts of interest.

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