Seminars in Arthroplasty 27 (2016) 166–171

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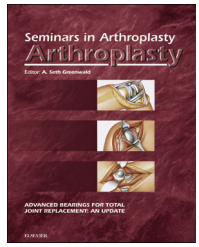

Assessing quality in alternative payment models

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ARTICLE INFO

Keywords:
Total joint arthroplasty
Alternative payment model
Performance measures
Risk adjustment

ABSTRACT

Within an alternative payment model, the focus of both the payers and the providers is on reduction of cost in providing care. Both the payers and the providers must, however, meet the moral, ethical, and legal requirement to show that quality was maintained, or, more ideally, improved for having gone through process changes. Being episodic, total joint arthroplasty is better suited for bundled payment models. This article reviews types of performance measures, their current application in the CMS value-based purchasing (VBP) and CJR programs, future measures and applications, and potential unexpected consequences and their possible solutions.

1. Introduction

Orthopedic surgeons face an evolving reality of their professional reimbursement being affected by the quality of their outcomes coupled with some form of an alternative payment model (APM). This is now legislated through the Medicare Access and CHIP Reauthorization Act of 2015 (MACRA). The final rule for MACRA requires reporting through the Merit-Based Incentive System (MIPS) or, alternatively, participation in an APM to qualify for incentive payments from Medicare [1].

Because of its high cost to Medicare, there has been a special focus on lower extremity arthroplasty and creation of APMs that cause monetary risk for the hospitals with the expectation that the surgeons will be asked to share in the same. Other third-party payers are also moving away from traditional fee-for-service and its variability in terms of cost and are moving to quality-driven shared risk/reward models that require hospital/physician partnerships. Because of the episodic nature of arthroplasty, it is a procedure set best suited for bundled payments as opposed to accountable care organizations (ACOs) and medical homes. The Centers for Medicare and Medicaid Services (CMS) has moved on from its early experience with the Acute Care Episode (ACE) demonstration and more recent voluntary involvement with the Bundled Payment for Care Improvement (BPCI). CMS has now mandated geographically targeted required bundle payment arrangements for their fee-for-service patients in the Comprehensive Care for Total Joint Replacement (CJR) Model; that reality makes APMs very real for those involved with nearly a quarter of the total joints performed in 67 metropolitan statistical areas across the United States.

Within a bundle, the focus of both the payers and the providers is on reduction of cost in providing total joint surgery with the expectation of shared savings as an incentive for creating efficiencies. Both the payers and the providers must, however, meet the moral, ethical, and legal requirement to show that quality was maintained or, more

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http://dx.doi.org/10.1053/j.sart.2016.10.004
1045-4527/

ideally, improved for having gone through process changes. This requires the measurement of effectiveness and safety, not just efficiency.

There are different approaches to measure quality. Internal measurement has long been a part of hospital privileging and quality improvement efforts. External performance measures are used to compare hospitals and/or providers to one another via reliable and validated methods producing common, measurable, targeted outcomes that are ideally risk adjusted. Given their impact, such measures have higher value if endorsed by neutral bodies such as the National Quality Forum (NQF) or the Joint Commission. The ability of a performance measure to adequately discriminate differences in quality is critical in an environment where value-based payments and required bundles can mean significant differences in reimbursement to hospitals and their surgeons. This article reviews types of performance measures, their current application in the CMS value-based purchasing (VBP) and CJR programs, future measures and applications, and potential unexpected consequences and their possible solutions.

2. Types of measures

Routine internal measurements of quality have long been part of hospital privileging, quality improvement, and accreditation/state reporting. Length of stay, operating room delays, and readmissions are administrative data sets that can act as weak surrogate evidence of quality. Actual health outcomes are usually raw unadjusted data, such as mortality, surgical infection rates, and unexpected returns to the operating room. Knowledge of such rates can lead to identification of areas for improvements in safety and greater efficiencies.

External performance measures are used to compare facilities and providers. They need reliable common data sources and methods that can be validated with, ideally, adequately risk-adjusted outcomes.

There are several types of performance measures. Process measures rely on the reliability of a hospital/provider to accomplish specific interventions that are reasonably associated with better resultant states of health for the patients. Part of their becoming endorsed and widely used is based on appropriate literature and/or data being available to show the relationship of the measured acts and better outcomes. One such example is the Surgical Care Improvement Project (SCIP), and in particular, the measuring of the parameters surrounding the routine administration of the right prophylactic antibiotic before surgery. There is validating evidence that this action is associated with lower infection rates.

The problem with process measures, however, is that they are indirect in terms of capturing real outcomes and also readily achieved, thus making the performance gap no longer meaningful. The already mentioned SCIP initiative is such an example of a measure that "topped out," with nearly universal compliance of 98–99%. Achieving this, however, has been reported as not raising the quality of poor performing hospitals in terms of directly measured outcomes [2]. As such, the equivalent CMS measures for administration of antibiotics (NQF 527, 528, and 529) were recommended for reserve status by the NQF in 2014 [3].

Patients can be asked to assess their satisfaction with their hospital experience including that part that was with their physicians. This represents the patient judging the quality of the processes they have encountered as an inpatient. The inpatient set of questions and domains is collected through the CMS measure Hospital Consumer Assessment of Healthcare Providers and Systems, or HCAHPS.

Structural measures are another class of measure. These look at the hospital/provider having established the appropriate mechanisms to provide quality care. One set of examples are those measures that demonstrate a hospital's participation in one or more specialty-specific registries that provide benchmark data for outcomes that are assumed to help maintain and improve internal quality. It is an even more indirect measure of actual quality of outcomes than process measures. The feedback, however, from such registries can have great utility as it is data rich, especially given the ability to be measured against benchmarks for specific health care outcomes. Hospitals/providers are more inclined to participate in such registries when there is external reporting of their having done so; such a rising tide of participation can be thought of as raising all of the "ships," giving such measures more utility than first glance would assume.

Another class of performance measures relies on actual health outcomes. Such health outcomes can be of binary states such as mortality rates (alive or dead) or deep surgical infection rates (infected or not). Despite the direct capture of such states, such measures face important reliability and validity issues such as the timing of the events after intervention and the risk adjustments applied. When several such health outcomes related to a procedure are combined to look at overall performance across several potential complications, it is called a composite measure. The best orthopedic example of one form of a composite measure is the risk-stratified complications after total hip or total knee measure (NQF 1550) from CMS developed by the Yale Center of Outcomes Research and Evaluation (CORE); it captures multiple complications, both medical and surgical, over different time periods out to 90 days [4].

Health outcomes can be measured in other domains than mortality and morbidity. Readmission rates are directly measured adverse events for the patient and act as a surrogate measure for complications. Another domain is cost, which is a direct measurement that acts as a means of calculating the efficiency of the episode of care delivery as well as being a weak surrogate for adverse events.

Fortunately, the incidence of complications and 30-day readmissions in arthroplasty is relatively low, with an average rate of less than 5% for each. Cost variability is readily measurable, but reflects the quality of process, and the relative resources consumed, as much as outcome. Discerning differences in quality of outcome across the great majority of joint replacement patients require some other form of measurement. Historically, success from intervention has been measured in terms of composite scores combining patient comfort, function, and exam using scoring systems such as the Harris Hip Score and Knee Society Score.

Patient-reported outcomes (PROs) are scored measures that are generated from patient responses to questions that