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Editorial

Increased Time, Administrative Tasks, and Decreasing Reimbursements: Has Value-Based Care Contributed to Burnout Among Orthopaedic Surgeons?

Orthopaedic arthroplasty surgeons are at the center of one of the most expensive surgical treatment strategies for a growing population of patients within the United States. This makes the field of arthroplasty a prime place for cost containment efforts to be directed toward, which has been comprised mostly of strategies labeled as “value-based care” (VBC). With VBC, all health care parties involved have aimed to increase value while decreasing costs based on the famous equation by Porter et al.: value = outcome/cost [1]. This has led to many changes over the past years that will be summarized here. Simultaneously, we aim to present how these changes have led to increased surgeon burnout and how they are currently causing changes that will affect patients and surgeons in years to come by imparting changes in practice that do not appear aligned with value outcomes. Moreover, we aim to provide a review of changes that we believe could improve surgeons’ satisfaction by increasing their involvement in policy creation and alteration that can lead to sustainable improvement in the field. There were two independent authors who manually searched the literature by exploring PubMed and Google Scholar. Medical Subject Heading (MeSH) terms involved the use of “burn out, value, arthroplasty, and outcomes.” We believe systemic changes that place surgeons in more relevant and policy-making positions are more likely to align with the quadruple aim (i.e., “enhancing patient experience, improving population health, reducing costs, and improving the work life of health care providers”) [2].

Physician Burnout: A Rising Issue Facing Orthopaedic Surgeons

Orthopaedic surgery is a demanding field characterized by long hours, high patient volume, and complex cases. Numerous studies using the Maslach Burnout Inventory, the most studied and validated burnout assessment scale, have documented the large prevalence, showing adverse effects on mental and physical well-being, patient safety, and health care quality [3–6]. The incidence of surgeon burnout has only increased over the years, and there does not appear to be a cure [4,7]. Furthermore, multiple studies have shown that orthopaedic surgeons have some of the highest rates of suicide among medical specialties [8,9]. It is also noted that this epidemic of decreased mental health among surgeons is due to a multitude of

factors [10]. Some of the most cited include a growing patient population in both size and complexity, reductions in procedural reimbursement, increasing patient demands, and increasing burden of administrative tasks [11,12]. Other pressures include the shifts from fee-for-service into managed care contracts and VBC programs that require an enormous effort to develop and implement [13,14]. These VBC programs require surgeons to spend time away from patient care and exponentially increase the volume of administrative tasks directed by health care administrators and insurance companies that do not directly engage in patient care, both of which are highly associated with burnout [15]. Furthermore, the pressures that physicians face from health systems to provide high-quality care with fewer resources and autonomy also increase the amount of emotional burden that physicians face [15,16]. These various stressors are all factors that likely lead to increased burnout and, in some cases, a desire to leave medicine (Figure 1).

The Rise in Value-Based Care Implementation

The initial goal for the implementation of VBC programs was to improve patient outcomes while decreasing overall costs. This was believed to promote more personalized and coordinated care, improve efficiency, and decrease costs by eliminating variability in care [17]. Orthopaedic surgery became impacted by these programs in 2009 with the Acute Care Episode project, a pilot of three hospitals implementing bundled payment models for total knee arthroplasty (TKA) and total hip arthroplasty (THA) [18]. Around this time, Porter et al. also published their highly cited article defining value as a change in health care quality over cost [19]. These VBC models emphasized enhanced patient outcomes, efficiency, and patient satisfaction and successfully reduced the episodic cost of care in certain orthopaedic conditions. These adjustments were accomplished through oversight groups for quality, finance, and provider incentive program committees [20]. Each committee developed and refined cost containment and quality improvement strategies by optimizing and standardizing perioperative patient care and reducing surgical implant costs.

The success of the Acute Care Episode pilots led to other bundled payment programs, such as the Bundled Payments for Care Improvement initiative and the Comprehensive Care for Joint Replacement [17,18,21]. These programs have proven effective and efficient for payers to decrease care costs, yet their effects on the physician have not received much attention. Furthermore, these programs seem to have increased the financial stresses of many surgeons

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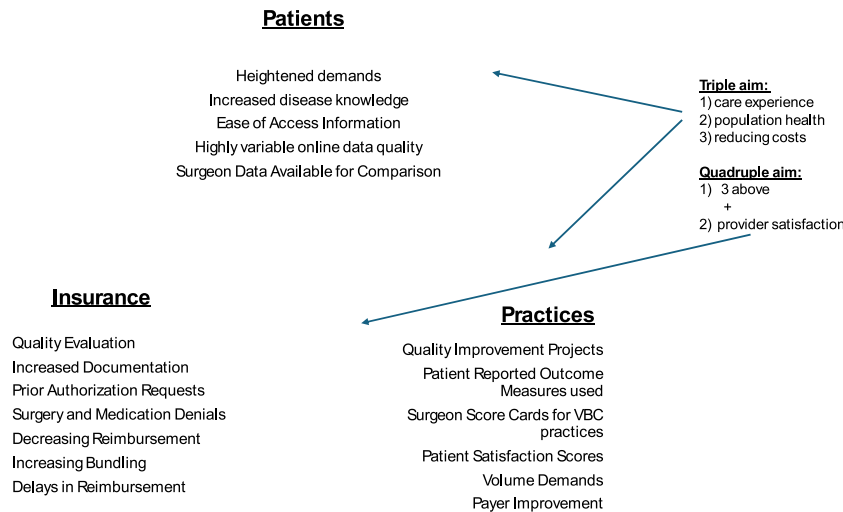


Fig. 1. The Venn diagram demonstrates some of the different pressures passed on to surgeons. The pressures mentioned here are divided into three groups with cross-over between many of them. Those placed by patients are those of increased demand for good outcomes, more knowledge about their own conditions, ease of access to online information that may not be of the highest quality, and patients' ability to compare surgeons online based on reviews and outcomes. The pressures created by insurance enterprises on surgeons include the number of quality initiatives and evaluation projects that they are forced to keep up with in association with more documentation requirements. These are often denials and prior authorization communication requests associated with more bundling of operative services with decreased and delayed reimbursements. Also, surgeons' part of practices is also faced with pressures placed on them, which include quality improvement projects, comparison to their peers, intrafacility grading, satisfaction, volume demand, and objective demands for payer mix improvement. These are also some of the other challenges encountered. VBC, value-based care.

and surgical practices secondary to the financial benefits of the programs being heavily weighted to payors and third parties—not the surgeons or surgical practices themselves [22]. The increased focus on shifting health care away from a fee-for-service model and into VBC arrangements gave birth to initiatives such as the Triple Aim and Quadruple Aims [23,24]. Whereas the Triple Aim (2008) only focused on patient care experience, quality outcomes, and cost reductions, the Quadruple Aim (2014) identified the rise in physician burnout and added a fourth component focusing on physician well-being [2,25]. These later programs were only added at a time when surgeon burnout was already a growing epidemic, according to the annual Medscape reports, with a concomitant reimbursement decrease (Figure 2) [26–31,34–36].

Key Elements for Successful VBC Implementation and Factors that Lead to Surgeon Burnout

While a literature review found no studies directly correlating the intersection of surgeon burnout and VBC implementation, qualitative data from multiple articles on infrastructure, workflow changes, key stakeholders, and interdisciplinary team requirements to implement orthopaedic VBC programs successfully was thematically analyzed [3,4,7,8,10,26,37–45]. Findings pinpointed common themes between factors leading to surgeon burnout and VBC implementation. Some of the key components required to implement VBC arrangements successfully include quality metrics and performance standards: patient outcomes, readmission rates, and adherence to clinical guidelines have become the main components that orthopaedic surgeons are evaluated on. To meet these performance standards, healthy systems and physician practices must invest in the infrastructure and human capital required for meticulous documentation, multidisciplinary team coordination, and continuous quality improvement efforts, leading to added administrative burdens and time pressures. These data points are not only used by practices and surgeons to compare each other and continuously improve quality and reduce costs to convene value-based care arrangements but also by payers to decide reimbursement rates and, in some cases, even penalties [41].

Care Coordination and Integration

The VBC programs emphasize care coordination and integration across the health care continuum, requiring orthopaedic surgeons to collaborate closely with primary care providers, physical therapists, and other specialists. While improved coordination can enhance patient outcomes, it also introduces challenges related to increased communication, care transitions, and workload management at a time when reimbursement continues to decrease [12,35,36].

Risk-Based Contracts and Financial Incentives

Participation in risk-based contracts and financial incentives tied to VBC outcomes incentivize orthopaedic surgeons to focus on cost-effective care delivery and resource utilization. However, navigating complex payment models that surgeons have not been trained on, managing financial risk when many chose medicine to focus on patient care, and meeting budgetary constraints to satisfy health system leadership can all create additional stress and uncertainty for the physicians implementing these programs [46].

Technology Adoption and Data Reporting

The VBC initiatives often leverage technology for data collection, analytics, and reporting. Orthopaedic surgeons are required to adapt their electronic health record systems, participate in data reporting programs, and use data-driven insights to direct clinical decision-making. Again, tasks that take surgeons away from their training focus and add more stress to the practice of medicine. The learning curve associated with technology adoption and data management can also contribute to burnout, especially among more tenured practitioners [43].

These components of VBC, while aimed at improving health care quality and efficiency, can inadvertently intensify burnout among orthopaedic surgeons. The combination of increased performance expectations, administrative complexities, care coordination challenges, financial pressures, and technology demands can create a high-stress environment that predisposes surgeons to burnout [47].

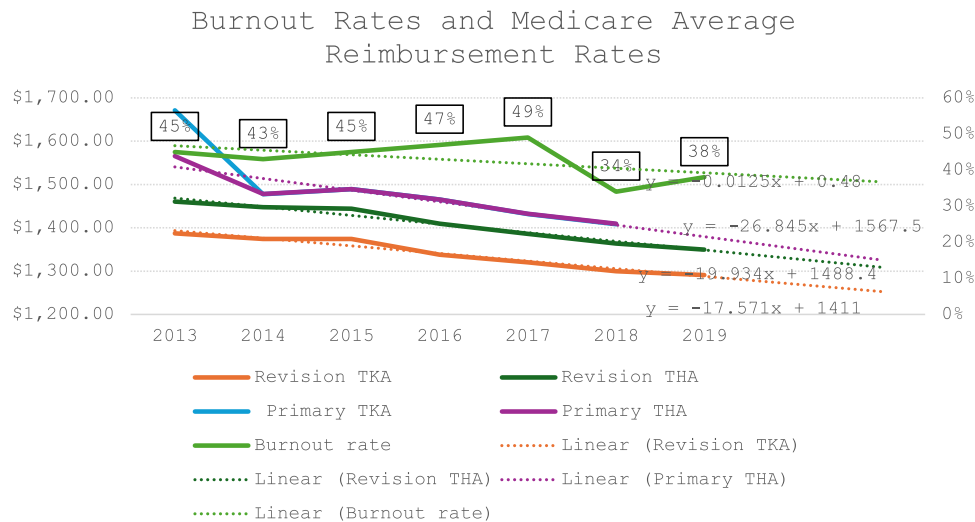


Fig. 2. Recent trends in reimbursements of revision hip and knee arthroplasty as reported by Gerhardt et al. and Wang et al. and burnout rates in orthopaedic surgery per Medscape. The linear trend equations are shown in the graph to demonstrate that the magnitude of decreasing reimbursements is many times more than any change in burnout rate [26–33]. TKA, total knee arthroplasty; THA, total hip arthroplasty.

Many have published on the decreasing reimbursement rates among orthopaedic surgery procedures, mainly due to the deflationary Medicare reimbursement rates. This is a known issue in which different medical and surgical societies spend time and resources advocating against government payors. What is more contributory to the increased burnout rates associated with a decreasing reimbursement rate is the growing complexity of patients and the increasing percentage of patients requiring revision surgery. Various authors have demonstrated that doing revision arthroplasty incurs greater surgeon physical energy, costlier implants, increased perioperative costs, and time. These increased requirements are reimbursed at a continuously decreasing rate and at a significantly lower reimbursement rate for effort than primary THA or TKA. This further adds pressure to the surgeons, who are already faced with multiple pressures from payors, health systems, and patients themselves [44].

All these factors, combined with high patient volumes, labor-intensive procedures, long operative hours, on-call responsibilities, and physical demands with increased patient complexity and decreasing reimbursement, likely lead to increasing burnout rates. Additionally, the implementation of VBC programs requires orthopaedic surgeons to adapt rapidly to the ever-evolving practice paradigms and regulatory requirements, amplifying the risk of burnout.

Could a Specialist-Led Care Practice Model Help Achieve the Quadruple Aim?

We posit that a specialist-led model can help fight the incidence of surgeon burnout and simultaneously maintain quality of care while reducing overall costs [48]. In this model, surgeons (specialists) drive the direction of a practice or health system's efforts toward providing more value for patients, and the "race to the bottom" payment concept is stopped. In most cases, we believe that putting surgeons in a decision-making position can lead to more increased value rather than simply decreasing disposable equipment costs.

Putting in the same infrastructure, systems, and human capital that current VBC models require and placing surgeons at the head of the decision-making care continuum with a multi-disciplinary support team empowers surgeons to highlight the bottlenecks that take place in the preoperative, perioperative, and postoperative settings. By identifying and driving patient care

changes with reimbursement rewards for the extra care management time, we are confident the goals of VBC programs can be accomplished while reducing the incidence of surgeon burnout.

An example of this is preoperative arthroplasty classes, most often provided by physical therapists (PTs) [49]. Studies have shown that these visits help prepare patients for arthroplasty, increase patient satisfaction, and may decrease office calls and communication requirements [50–53]. While implementation of these classes creates a benefit to patient care, oftentimes they are not reimbursed by payers and/or undergo insurance denial, and the costs are absorbed by the health system or practice [45,54,55]. Thus, we believe that informed surgeons could help align the financial incentives with these classes, which could lead to increased reimbursement for those types of classes and for the physical therapy that provides them, which would then most likely increase patient engagement with these classes.

Framework for a Specialist-Led Care Practice Model

Surgeons and surgical practices are already implementing practices that follow the values of VBC [38,40,56,57]. Successful VBC programs have practices that properly indicate patients for surgery and treat these patients based on well-established principles and techniques within evidence-based medicine [58]. Surgeons and practices would also collect patient-reported outcome measures to demonstrate the value of the care that they provide while recognizing the limitations of these measures [59]. We see surgeons being more involved with governing bodies like private insurance companies, the Centers for Medicare and Medicaid Services, and hospitals in a way where surgeons can take part in the decision-making process that often leads to changes in practice models. Surgeons in positions of power could explain to nonsurgeons how simple decisions can affect long-term patient care and costs. Physicians in this position of power could help alter how payors value certain aspects of care to better fit the long-term costs of a patient's care. Examples of this are putting surgeons in a decision-making position for the site of care of their patients at the time of primary or revision THA or TKA for osteoarthritis. Various studies have shown that discharge-to-home patients tend to have fewer complications than inpatient surgeries, yet this creates a heightened requirement of planning, executing, and postoperative monitoring with these

patients, who should be financially incentivized instead of punished, as perioperative outcomes are better than those of patients performed as inpatients [60–62]. Moreover, having specialists take part in the reimbursement discussion could affect how evidence-based medicine practices are performed, like increasing the amount of physical therapy before surgery versus injection of hyaluronic acid, which the American Academy of Orthopaedic Surgeons does not support, yet it is commonly used nationwide [63].

Successful practices also incorporate a risk stratification component for patient selection [64]. Nonetheless, surgeons' preferences or case denominations as inpatient or outpatient are often decided by insurance companies more than the physicians treating the patient. We promote a framework where surgeon preference for the designation of the location of surgery is considered with high weight at the time of surgery location decision. This is not done to “lemon drop” or “cherry pick,” but to ensure patients are properly optimized prior to their surgery to maximize their outcome. A very small number of patients make up a large percentage of costs of care, and putting efforts into minimizing these outliers saves health care systems enormous amounts of money [65]. Such efforts can be accomplished by using a nurse navigator system and utilizing internal questionnaires to determine a patient's health and risk status. This creates a common and national universal language that is financially incentivized and in accordance with the quadruple aims [66]. Such systems are not without fault, considering that practices and physicians may have a limited scope of the patient's active medical problems. However, these efforts have a trickle-down effect of allowing demand-matching of patients for surgical facilities. In short, the healthiest patients can typically be treated in lower-cost surgical centers, while the most medically complex patients may need to be treated in tertiary care facilities [67]. Stratifying patients in this manner allows patients to receive the level of care they may require while also keeping facility costs as low as possible. Multiple studies have evaluated these practices and found them to be successful at optimizing patient care and decreasing the costs associated with care [39,68]. By implementing these factors, facilities are able to continue to provide care for almost all patients within their community while simultaneously optimizing the costs associated with such care [42].

Conclusions

It is important to recognize that surgeon burnout is continuing to rise at the same time value-based care initiatives are putting increased burdens on physicians. While studies looking at a direct cause and effect between the two facts do not yet exist, the factors listed above suggest that, at the very least, an association between the two factors is likely. As more and more health care decisions are directed by payors, administrators, and third parties that do not interact directly with patients, it is easy for surgeons to feel that the goals of the care they provide are ever-changing, increasingly complex, and designed to diminish their work. Implementing solutions in today's health care climate is a tremendous challenge. However, if surgeons can regain control of their practices and work to develop specialist-led care that provides all of the value of third-party programs, then perhaps we can take a step forward toward reducing burnout by giving the care and responsibility back to health care specialists who have trained on and directly cared for patients.

CRedit authorship contribution statement

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Dana Jacoby: Writing – review & editing, Writing – original draft. **Marney F. Reid:** Writing – review & editing, Writing – original draft.

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