ERDMAN INSIGHTS

DESIGNING FOR THE FUTURE OF ORTHOPEDIC CARE

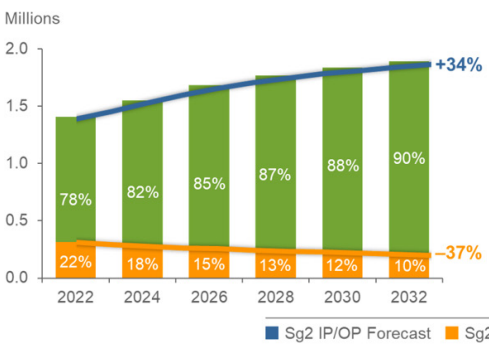
The demand for orthopedic procedures continues to shift from the inpatient to outpatient care environment. Reimbursement rates continue to decline as purchasers of healthcare (payers, employers, patients) recognize these procedures can be performed in the lower cost ambulatory setting. Now, more than ever, it is critical for orthopedic-focused providers to think about both the strategy for delivering holistic musculoskeletal care and the physical environment required to support this care. The expected increasing patient volumes, escalating complexity of procedures, and new demands for coordinated care will require efficiency of delivery and high-quality outcomes to ensure that reduced reimbursement will continue to cover the cost of care.

Musculoskeletal care and orthopedics are well-positioned to serve as a case study, and potential success story, for migrating to a value-based care (VBC) model. Reasons include its primarily fee-for-service (FFS)-based reimbursement, and its impact to overall health spending. Musculoskeletal care and lost productivity represent an estimated five percent of all GDP spending, or a quarter of all healthcare spending.

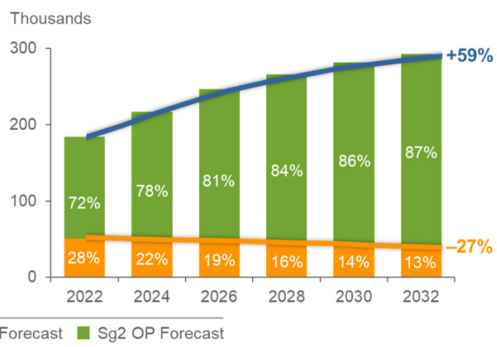
However, simply moving orthopedic cases to an outpatient or ambulatory environment does not automatically mean that value-based care with improved outcomes is being delivered. The real opportunity in VBC is in treating the whole patient, which reduces the need for expensive surgery in favor of less expensive and coordinated care. While reimbursement regulation will ultimately move provider practices in this direction, those that view musculoskeletal care holistically, encompassing primary care, weight management, behavioral health, and alternatives to surgery, such as physiatry, pain management, and physical therapy, among more traditional diagnostics and procedures, may have an easier transition.

One in two Americans have a musculoskeletal condition costing an estimated $213 billion each year in treatment and lost wages. If you include other co-morbidities that are often inextricably linked, such as diabetes and heart disease, the number is actually 5-6% of GDP up to $900 billion.[4]

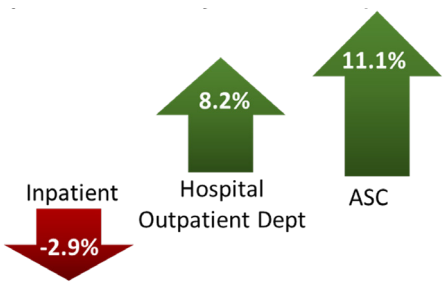
IP and OP Hip and Knee Replacement Forecast for Osteoarthritis, US Market, 2022–2032



IP and OP Shoulder Replacement Forecast
US Market, 2022–2032



Advisory Board 5 Year Projected Growth (2021-2026)



Orthopedics and Value-Based Care

In the simplest terms, value-based care means that instead of relying on volume to drive payments (and thus, revenue), payments are based upon the degree of value delivered to the patient. In this instance, value is defined as Quality ÷ Cost. Quality is defined by patient-reported outcomes (PROs), hospital-reported outcomes (HROs), access, and experience. Cost, on the other hand, can be measured at the level of the encounter, but it preferentially is measured across the entire episode of care or even more broadly by diagnosis.

Philosophically, VBC focuses more directly on population health, which marks a major change in thinking from the previous model. And it has sweeping implications for the future of orthopedic care and the built environments in which it is delivered - in some ways ushering in a whole new world.

As noted, there are various types of value-based care arrangements, ranging from simple bundled payment arrangements to managing the spend on an entire population of patients.

Bundled Payments: Surgical Episode

The Acute Care Episode (ACE) project trialed bundled payments for total hip arthroplasty (THA) and total knee arthroplasty (TKA) at three hospitals. The ACE project resulted in a 10 to 15 percent reduction in the cost per episode and a one-day reduced stay for two of the three hospitals. Using the precedents set forth by the project, the New York University (NYU) Department of Orthopaedic Surgery has outlined the "Seven Pillars of Bundled Payment Success" to spearhead its adoption of bundled payments.[2]

Seven Pillars of Bundled Payment Success (as described in Bosco et al)

Early preoperative identification of patient risk factors.
Adoption of evidence-based clinical pathways to standardize care across all providers.
Establishment of robust data collection tools to efficiently track costs and utilization.
Identification of variation in outcomes and costs between providers at an institution.
Demonstration of quality in quantitative measures such as HCAHPS/Patient surveys.
Tight control of costs after patient discharge.
Alignment of all staff including administrators, surgeons, nurses and ancillary staff.

The department believes these "pillars" have accounted for its success during the transition from FFS to VBC bundled payment. These principles ensure the quality of care across all patient interactions, while also reducing costs.

Bundled Payments: Diagnoses

A more comprehensive value-based program may include the entirety of care for a specific diagnosis rather than simply the surgical episode. For example, these types of programs are being created for hip, knee, and shoulder arthritis, low back pain, etc. The bundle is triggered by the diagnosis code and establishes a budgeted expenditure for the patient whether surgery is necessary or not. The duration of the bundle may be three to six months, or even one year in some cases.

Where The Built Environment Connects with VBC

- Evidence-based clinical pathways to standardize care
- Reduced variation in the physical environment
- Physical demonstration of quality and safety to support CAHPS/Patient Surveys

Value-Based Care: Population Health

This can be thought of as comprehensive value-based care, whereby a provider group (large multi-specialty practice, health system, or clinically integrated network) manages a large population of patients. We spoke with Dr. Jason Sansone, with 4S Consulting, LLC, and orthopedic surgeon, and he offered this example: HOPCo Arizona has entered into an agreement with United Healthcare Medicare Advantage across the state to manage all 26,000 ICD-10 codes related to musculoskeletal health. In this type of arrangement, a per member per month (PMPM) "target" is agreed upon by the provider group and the payer. Typically, at the end of each program year, the actual spend is compared to the PMPM target. Any cost savings are then distributed back to the payer, resulting in premium relief, expansion of benefits, etc. and provider group, resulting in quality incentives, etc.

Summing Up Value-Based Care

Value-based care is creating entirely new expectations for excellence in orthopedic care. Its chief aims are to provide better care for individuals, improve population health management strategies, cut healthcare costs, and reduce the incidence of physician burnout.

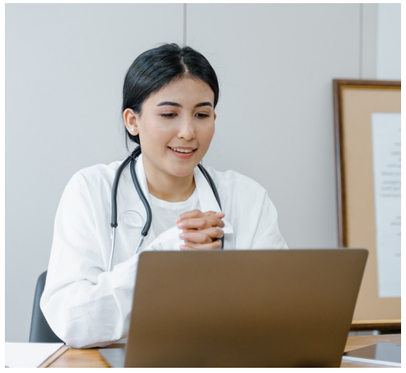
Other Healthcare Trends Impacting Orthopedic Care Delivery

COVID-19 accelerated some preexisting trends, including the rise of telehealth, which has proven effective in reducing costs and increasing convenience. An increasing abundance of research suggests telehealth visits in orthopedic surgical care can provide significant cost savings to patients, practitioners, and governments. The obvious benefits for patients include 24/7 access to their healthcare team, no burden of transportation, and avoidance of health care facilities with their attendant risks of infection.

Other important factors include CMS' moving more orthopedic and spine procedures off the "inpatient-only" list, an increasing proportion of same-day discharge joint replacement procedures, changes in payer policies, and rapid advancements of surgical and anesthesia techniques.

These factors dovetail with the trend toward site neutral payment models, in which the same amount is paid regardless of whether care is delivered in a facility, a patient's home, or elsewhere. Site neutral payment models are predicted to save patients and taxpayers hundreds of billions of dollars over the next decade.[3]

The challenge, especially for orthopedic surgeons, is successfully navigating the transition from payment solely based on volume to the value-based care environment in which payment depends more on quality, improving outcomes, and total cost of care. The old model of "churn and burn" is becoming increasingly antiquated.



Shifting Payment Models and the Built Environment: Getting It *Just Right*

Determining how much space to design and build to maximize efficiency and capture the highest dollar yield is a "Goldilocks problem" - not too much, not too little, but just right.

This involves careful calculations of productivity and an intimate understanding of how healthcare professionals move through and between spaces (rather than how the designers expect them to)

The importance of designing the built environment around efficiency, reduced variation, and evidence-based, human-centered care remains essential to success in orthopedics under VBC - even in outpatient scenarios, as many technological advances afforded to inpatient settings will also become expected in outpatient settings.

When caseloads and complexity increase, and conditions can change quickly, designing operations to be flexible within the physical environment around the planned service and physician mix is crucial.

Service mix: Considerations That Can Dramatically Impact Efficiency

Prediction: What are the future estimated types and volumes of patients? What are their predicted care paths, from the first point of entry into a system (potentially a primary care visit) through the last (potentially physical therapy)?

OR Scheduling: Many cases can be predicted in terms of completion, case lengths, and risks of complications and scheduled accordingly to maintain the delicate balance of an efficient operation. If block time is unlikely to be used, it should be easily released.

OR Planning: Certain support areas must be accounted for, including waiting, pre-op, post-anesthesia care unit (PACU), and recovery space according to the service complement.

Flexibility: Computer simulation models and predictive analytics can radically improve efficiency and quality of care, incorporating considerations around differing procedures, the skill levels of surgeons, availability of staff, and efficient and effective use of available equipment and other resources.

Communication: One priority that absolutely must not be ignored is the importance of designing physical spaces and operational processes that provide transparency and foster effective communication between physicians, care team members, pre-op staff, physical therapist, and patients. This requires understanding social dynamics, behavior, and specific human needs that may not be easily accounted for in a typical design approach. This also extends to reducing friction and handoffs for staff and others.

Patient Expectations:

Because the field of orthopedics is changing so quickly, the spaces that support care delivery must be adaptable, with flexible architecture, infrastructure, and technology, and meet patient and family expectations.

Information regarding consumer demographics, behavior, and desires can greatly influence design elements. While different patients may require the same surgery, for example, differing patient preferences for communication pre- and post-op, convenience versus scheduled care, concierge versus no-frills services, among other differences, will impact the built environment.

Physical environments can greatly impact Consumer Assessment of Healthcare Providers and Systems (CAHPS) scores.

Determined by patient assessments of their experiences, CAHPS scores include preparation for surgeries and other procedures, the cleanliness and aesthetic appeal of the environment, the ease of check-in and discharge, preparation for at-home recovery, and, of course, communication with staff.

Patient experience translates into raw numbers in terms of reimbursement.

Systems & Equipment:

According to the Pareto Principle, 80% of causes flow from 20% of actions. By this token, it is unnecessary to fuss over every detail, but it is essential to fuss over the *right* details.

Taking a best practice approach to designing surgical systems and equipment can maximize return on investment. Considerations include:

- Air quality: HEPA-level filtration, changing filters, leveraging innovative technologies, etc.
- Thermal comfort: controlling and compromising air temperature, radiant temperature, humidity, and air speed.
- Reliability and resilience: As a rule of thumb, the more complex a system, the less reliable – so keep it simple. When in doubt, opt for simple, proven, easy-to-understand automatic control.

Consider this:

Given the option of investing in a system that holds the temperature of an operating room at 65 degrees or settling for a system that holds it at 68 degrees, which represents maximum efficiency?

In such scenarios, looking beyond the obvious and seeing the second-order effects is essential.

In a 68-degree operating room, the surgeon must redress between every procedure, which adds ten minutes every time it happens. The obvious money-saving solutions do not always save money in the long run.

To understand best practices in maximizing efficiency, it is necessary to think beyond line items and look at second-order effects, human behavior, and other elements of how care is performed in designed and built environments.

A Hinge Health report, 2022 State of MSK, cites studies stating that people of color, lower income patients and rural patients were more likely to be prescribed opioids for musculoskeletal pain. Those who may most need care are not conveniently close to it. Rural patients may be recommended for surgery more often if the closest physical therapist is more than an hour away.

It Takes a (Medical) Village

Care in a value-based environment must resolve health inequities, provide better access, improve outcomes, and address bias in care paths and treatments. To adapt to these evolving conditions and the expectations of patients, their families, and their communities, the environments in which care is delivered must also change.

Now, planning is more likely to focus on advancing the overall health and wellness of the patient, from early referral through recovery, across the entire continuum of care.

Upstream services from which orthopedic referrals may come, and from which musculoskeletal care may be influenced, should be considered in such a continuum to to support a holistic approach as mentioned on page one.

New outpatient orthopedic campus environments may include clinic space, procedure space, imaging, fitness and physical therapy facilities, nutrition, a medical patient hotel, prosthetic space, and retail space. Cafeterias will serve more nutritious food. Natural light will be abundant, as it helps reduce stress, improve wayfinding, and create a more open and comforting atmosphere. Life-affirming biophilic elements will be prominently featured.

In the procedural space, larger operating rooms will more easily accommodate different configurations, technology, and types of orthopedic procedures. Universal pre-post bays will improve flexibility and shorten walking distances. General and preventive education programs will be offered to increase efficiency for patients going through procedures and for better recovery afterward.

When patients are ready to leave surgical environments but not quite prepared to go home, smoother transitions can be facilitated through solutions such as hoteling (for close proximity in a healthcare-at-home environment), rehabilitative space from inpatient to hospitality environments, or partnerships with active senior living.

ERDMAN TAKEAWAY

The expected rise in the demand for orthopedic services, escalating complexity of procedures, and new demands for coordinated care will require efficiency of delivery and high-quality outcomes to ensure that reduced reimbursement will continue to cover the cost of care.

It is critical for orthopedic-focused providers to think about developing a strategy for delivering holistic musculoskeletal care and the physical environment required to support this care.

Key considerations:

- Understanding the shifting needs of those you serve
- Making informed, data-driven decisions to optimize operations (procedures, services, providers, partnerships, contingencies, etc.)
- Embracing and maximizing your unique opportunities
- Designing for efficiency, flexibility, quality, and safety to attain the best possible outcomes
- Maintaining a competitive edge in your market

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INTEGRATIVE THINKING. HEALTHIER COMMUNITIES.

With over 70 years of experience, ERDMAN assists healthcare and orthopedic specialty leaders prepare for the future. From comprehensive market planning and experiential design, to engineering for maximum efficiency and delivering projects with budget and schedule certainty, our service offerings and team members support clients with impactful planning, architectural design, and **Integrative Thinking™** to solve complex healthcare challenges.

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