

# DRIVING VALUE THROUGH CLINICAL PRACTICE VARIATION REDUCTION

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## Abstract

Rising costs, coupled with declining Medicare reimbursements and growing patient shifts into government funded health insurance programs pose a serious threat to patients' ability to receive affordable, quality healthcare. In order for Healthcare Systems to survive and thrive in the future it is critical to reverse the increasing cost trend and deliver value based care, solving the quality versus affordability equation.

In response to these industry challenges, Ochsner Health System's (OHS) Pursuit of Value initiative targets the minimization of unwarranted clinical practice variation that leads to high costs and can lead to poor outcomes. An integrated team of clinical and administrative leaders has deployed the fundamentals of cost engineering, process improvement, and evidence based medical best practices to drive cost savings and quality outcomes for the health system.

Improving cost and quality performance requires a multifaceted 6-point strategy leveraging value stream analysis and process engineering methodologies to assess all drivers of unwarranted variation, and to develop actionable solutions that improve financial stability in the areas of supply, labor, and overhead costs. Through successful implementation of variation reduction solutions in these critical areas, the necessary level of quality outcomes and cost containment will be reached in support of the OHS mission.

## Introduction

The mission of OHS is to serve, heal, lead, educate, and innovate. Critical to these ideals are six imperatives, four of which are outlined as follows:

- Aiming to serve the community
- Striving to be the best workforce
- Becoming a national leader in academics
- Staying loyal to patients and their families

The final two imperatives are sustaining financial stability and growth, and providing error-free care to our patients that is affordable. With these final two tenets in mind, the OHS Pursuit of Value team embarked on an effort to identify areas of unwarranted clinical variation that were driving sub-optimal care and hindering the system from achieving its' financial goals.

## Unwarranted vs. Expected Clinical Variation

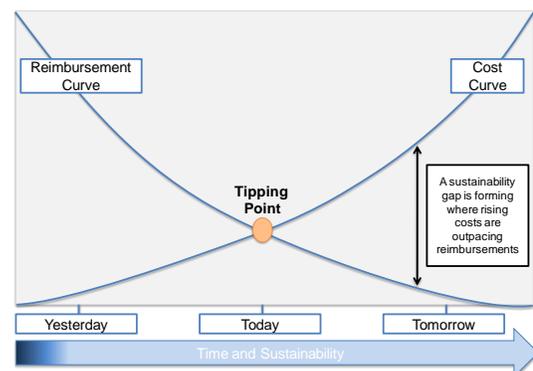
Unwarranted clinical variation is described as utilization of health care services that are unsupported by clinical evidence, patient illness factors, or patient preferences. Examples of unwarranted variation include failure to deliver the proper care, overuse of procedures that do not help the patient, underuse of procedures that could help the patient, overuse of expensive supplies that did not improve quality of care, and errors in care delivery.

Conversely, expected variation deals with inherent appropriate variation that exists with the patient population such as age, gender, and patient treatment response.

It is important to make the distinction between unwarranted and expected variation in order to focus clinical variation reduction efforts in the right area. The Pursuit of Value effort examined value streams in the unwarranted variation arena targeting opportunities to minimize unnecessary, potentially harmful care provided to patients as well as overutilization of testing, treatment, and supplies.

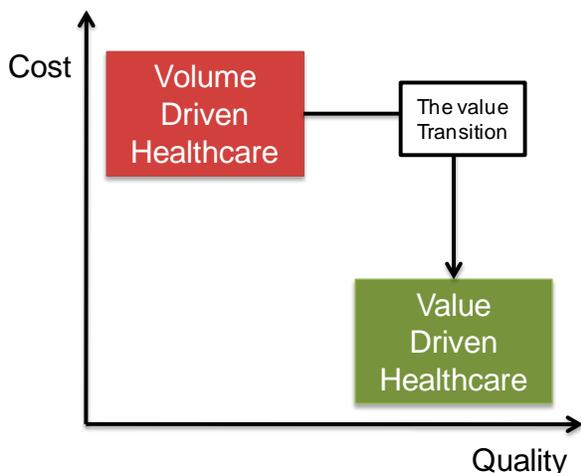
## Historical Financial Baseline

It has been well-documented that the current national healthcare delivery model is unsustainable, and with the passing of the Affordable Care Act (ACA), the entire industry is at a tipping point where costs from medical procedures are quickly outpacing government payer reimbursements. Figure 1 depicts the sustainability gap that is projected to form in the future for many health systems if significant cost reduction strategies are not acted upon.



**FIGURE 1: HEALTHCARE SUSTAINABILITY MODEL**

With a growing Medicare and Medicaid patient population, OHS is not immune to government payer reimbursement cuts. Future sustainability requires a shift from volume driven healthcare that encourages cost inefficiencies to value driven healthcare aimed at providing the best quality at the lowest costs (See Figure 2 below).



**FIGURE 2: THE VALUE TRANSITION**

Economic pressures from government reimbursement cuts coupled with OHS’s imperatives of financial sustainability and defect free care set the stage for the Pursuit of Value effort aimed at transforming the healthcare cost and delivery models to optimize patient outcomes at a sustainable cost for the health system.

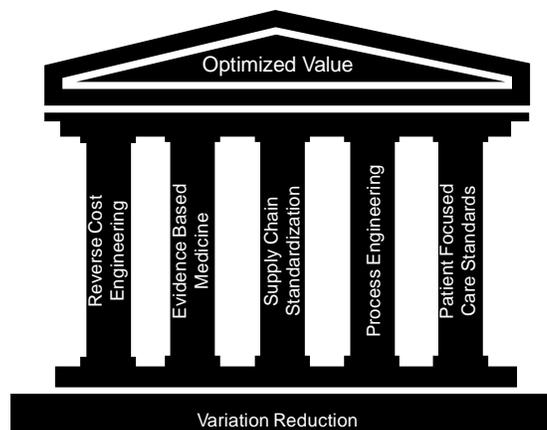
### Value Creation Approach

As a starting point, OHS deployed its analytics team to understand the top 16 highest cost Diagnosis Related Groups (DRGs). Thereafter, multi-disciplinary task forces comprised of both community and employed physicians with their administrative counterparts were established for each of these DRGs to examine variation in cost and quality, and to develop innovative solutions to enhance the patient experience at a sustainable cost.

In early deployment efforts, it was quickly recognized that no single strategy would enable full achievement of the financial and quality goals across these DRGs. Thus, core strategy pillars were developed that serve as the basis of OHS’s 6-point value creation approach and are described as follows:

1. Reverse cost engineering
2. Evidence based medicine
3. Supply standardization
4. Process engineering
5. Patient focused care standards
6. Variation Reduction

At the foundation of the OHS strategy is variation reduction which was central to all Pursuit of Value efforts. An explanation of the value creation strategies through a case analysis of the Orthopedics service line model is provided in the subsequent subsections.



**FIGURE 3: OHS’s 6 POINT VALUE CREATION STRATEGY**

### Value Creation Strategy: Reverse Cost Engineering

Given the projected increases expected in the Medicare population and Louisiana’s high volume Medicaid population, it was important for the Pursuit of Value team to establish financial savings targets based on government reimbursements. To set the financial targets for the OHS’s 16 highest cost DRGs, the team examined cost savings opportunities from the perspective of all payments shifting to government reimbursement rates. Thus, the first step in the reverse engineering process was to determine the savings needed on a per case basis if all reimbursements across all payers were assumed to be the same as government reimbursements. An example of Ochsner’s Orthopedic service line is provided in Figure 4 below (Note: numbers provided are notional and do not represent actual Ochsner financials, but rather are provided to illustrate the approach taken).

Avg. Direct Cost per Case	\$ 12,200
Reduction Target per Case	<u>(\$2,400)</u>
Target Cost per Case	\$ 9,800
<b>Reduction Target (%)</b>	<b>-20%</b>

**FIGURE 4: OHS FINANCIAL TARGET ESTIMATION**

In this Orthopedics example, in order to achieve profitability on a per case basis assuming all

payments shifted to government reimbursement rates, the Pursuit of Value team would need to achieve a \$2,400 cost savings per case. With this target in mind, it became critical to identify areas of opportunity within the Service line to achieve the targeted savings. For each of the service lines examined, the team focused on three areas of high cost opportunity: Supply Cost, Length of Stay Management and Operating Room Time. In this Orthopedics case example the cost savings opportunities were broken down as follows:

- **Supply Cost:** \$1,300
- **Length of Stay Management:** \$700
- **Operating Room Time:** \$400
- **Total Targeted Opportunity:** \$2,400

As a next step the Pursuit of Value team examined strategies to reduce cost within each of the three high cost areas, and reverse engineered savings opportunities even further by developing strategies within each of the three cost buckets as follows:

- **Supply Cost: \$1,300**
  - New Implant Pricing: \$650
  - Bone Cement Utilization: \$400
  - Operating Room Supplies: \$250
- **Length of Stay Management: \$700**
  - Patient Expectation Setting: \$200
  - Clinical Pathways: \$300
  - Pre-operative Patient Education: \$100
  - Improved Physical Therapy Management: \$100
- **Operating Room Time: \$400**
  - Physician surgery time variation reduction: \$150
  - Anesthesia efficiencies: \$100
  - Room turnover processes: \$150

The strategies identified above for the Orthopedics Service Line and for all Service Lines within the Pursuit of Value effort were defined by the team of surgeons closest to the process.

### ***Value Creation Strategy: Evidence Based Medicine***

Leveraging the reverse cost engineering approach described in the previous section, the Pursuit of Value team examined the cost savings opportunities from a clinical perspective by researching the latest evidence based literature from service line journals and publications to determine best practice guidelines. The team took a value stream approach across all inpatient procedures, looking at the pre-operative processes, inpatient surgery procedures, and the post-acute care provided. Utilizing the Orthopedics case example, the team leveraged evidence supported medical best practice to drive quality improvements and cost savings as follows:

- **Pre-Operative Procedures:** The evidence suggested educating patients on their total knee and total hip replacements preoperatively improved overall patient satisfaction. Further evidence highlighted that educating patients on a targeted length of stay and discharge date resulted in length of stay reductions. The team utilized this evidence as process improvement strategies that drove patient satisfaction improvements and length of stay reductions.
- **Intra-Operative Processes:** One of the high cost areas in total knee and total hip replacement surgeries is antibiotic cement utilization. There was significant variation in the amount and type of cement each surgeon used, and pricing for the cement ranged from \$200-\$400 per pack. The Pursuit of Value team again did a literature review of the latest evidence on bone cement and found that there was some evidence that supported using the antibiotic cement and other evidence that showed that non-antibiotic cement was just as effective during surgery. The team presented both sides of the argument to the surgeon leaders and it was ultimately determined by the high volume surgeons at Ochsner's main campus to only use the non-antibiotic cement given the type of procedures performed. This resulted in significant cost savings as the non-antibiotic cement pricing ranged from \$60-\$70 versus \$200-\$400 for the antibiotic cement.
- **Post-Operative Processes:** With length of stay being a primary cost driver for the Orthopedics service line, the team again turned to the literature to determine best practice opportunities to reduce length of stay. Historical Ochsner data showed that physical therapy for total knee and total hip replacement patients usually began the day after surgery. In doing a literature review, the evidence suggested that an intensive physical therapy plan beginning on the day of surgery significantly improved patient outcomes and reduced length of stay. This opportunity was brought to the physician leaders and resulted in patient focused care maps that drove toward defined standards for physical therapy, with some of the surgeons actually beginning physical therapy on the day of surgery. The overall impact of these changes resulted in reduced length of stay and quicker recovery times for patients.

### ***Value Creation Strategy: Supply Chain Standardization***

A major cost driver within the Orthopedics supply chain was implant costs. Across Ochsner's network of employed and community physicians, there was wide variation in the types of implants used and the pricing of those implants. Leveraging the

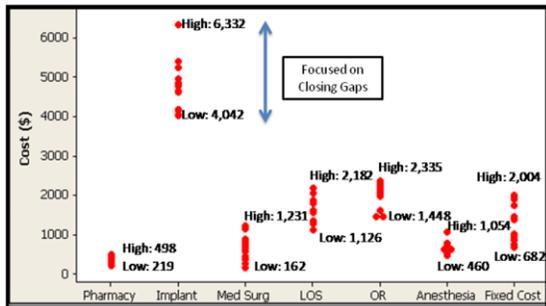


management. Further, the team defined a standard set of pre-operative testing, medical visits, and lab/blood work in alignment with the patient's health risk factors. Implementing these standards improved the quality of care and enabled efficient day of surgery processes.

- **Intra-Operative Standards:** The team deployed standard processes aimed at minimizing the variation in surgery times through dedicated staff assignments. Further the team explored room turnover time reduction strategies and implemented surgery supply standardization.
- **Post-Operative Standards:** In addition to the patient care map, the team clearly defined standards of how and when patients would be transitioned to post-acute care settings including long term rehabilitation, skilled nursing facilities, acute rehab, and home health. These solutions enabled surgeons to make rapid decisions about where to send patients based on the level of care that they required while minimizing OHS's inpatient length of stay.

**Value Creation Strategy: Variation Reduction**

The underpinning of the entire value creation strategy was variation reduction. In order to drive surgeon engagement toward high quality care standards, supply standardization, and surgery optimization, the Pursuit of Value team leveraged the variation in current clinical practice to create the business case for change. Data transparency of cost and quality indicators across all physicians sparked the necessary conversation about what was clinical best practice, and how OHS could strive to better meet the needs of our patients and healthcare system. Figure 6 below is an example of the cost variation seen in the Orthopedics service line.



**FIGURE 6: OHS ORTHOPEDICS COST VARIATION DOT PLOT**

The team methodically focused on the high cost areas first, examining the variation in clinical practice, and identifying opportunities to shift to lower cost, higher quality care solutions through reverse cost engineering, evidence based medicine, supply standardization, process engineering, and

patient focused care standards. After reviewing these data sets, surgeons began to change their clinical practices to drive toward cost efficiencies and quality improvements, many of which were outlined in the previous sections.

**Results**

The overall financial impact of the Pursuit of Value effort to the OHS bottom line has been \$2.9M year to date in 2012, with a projected \$8M in annualized savings projected by the end of 2013. The Orthopedics service line discussed at length herein represents about \$1M of the 2012 savings.

The overall impact from a cultural perspective has been much greater. Pursuit of Value efforts have taught the physician leaders how to think about the balance between cost and quality within their decision making process for the patient. As a result, the physician leaders are now identifying new innovative ways to make the high quality care that they provide to their patients more cost effective, enabling financial stability for Ochsner Health System.

**Lessons Learned**

Early on within Pursuit of Value efforts, it became apparent to the team the success of this effort largely relied on the team's ability to manage change efforts with the physicians. Leveraging change acceleration process best practices, five key change management strategies were deployed as documented in Figure 7 below.



**FIGURE 7: PURSUIT OF VALUE CHANGE MANAGEMENT STRATEGY**

The change management strategy outlined above coupled with a concerted effort to partner with the physicians to drive change rather than to mandate it, allowed the Pursuit of Value team and physician leaders to deploy solutions aimed at minimizing unwarranted variation.

A second and equally important lesson from the Pursuit of Value effort was that striving for optimal

patient care at an affordable cost is a never-ending process. The team iterated through the Plan-Do-Check-Act (PDCA) cycle several times before realizing high impact cost savings and quality improvement opportunities. Further, none of the efforts are or will ever be considered “finished” because there will always be opportunity to drive out unwarranted variation and process waste.

## **Conclusion**

As indicated by the Orthopedics case analysis summarized in this paper, high quality care at an affordable cost is an attainable goal that is both in the best interest of the patient and the healthcare system. Driving value through minimization of clinical variation will enable OHS to meet a higher standard of patient care while ensuring the long-term financial stability of the organization.

## **Biographical Sketch**

### **Adam J. Kelchlin, MEIE, MBA, PMP, LSSBB**

Mr. Kelchlin is a practicing Lean Six Sigma Black Belt and Project Management Professional with over 7 years of experience deploying continuous process improvement and project management principles across the healthcare, consulting, and defense industries. Mr. Kelchlin is currently the Director of Ochsner’s Project Management Office and the lead program Manager for Ochsner’s Pursuif of Value effort targeting clinical practice variation reduction and cost minimization. Mr. Kelchlin holds a Masters in Business Administration from Boston College and a Masters and Bachelors in Industrial Engineering from Rochester Institute of Technology.

### **Dr. Phil Oravetz, MD, MBA, MPH**

Dr. Phil Oravetz is Medical Director of Accountable Care for Ochsner Health System in New Orlaens, LA. Dr. Oravetz is Board Certified in Family Medicine, holds a CAQ in Geriatric Medicine and is a Fellow of the American Academy of Family Physicians. Dr. Oravetz has extensive experience in both regional and national capacities in physician practice management, medical group/IPA and health plan administration. In addition, he brings particular experience in medical management, including the application of information technology to population health management and physician decision support systems. Prior to joining Ochsner Health System, Dr. Oravetz functioned as Chief Medical Officer at the Mills-Peninsula Division of the Palo Alto Medical Foundation. His current role at Ochsner Health System is based both on medical management for accountable care arrangements and clinical integration for the health system

