

Hospital has High Cost of Care and Low Market Share

Accelero identifies opportunities to reduce costs and increase volume

AT A GLANCE

- 531-bed acute care hospital
- Flagship hospital for an eight hospital Mid-Atlantic network
- 13 orthopaedic surgeons and 6 neurosurgeons conducting over 2,000 inpatient orthopaedic surgeries per year.

ISSUES

- Limited growth of elective joint replacements
- High complication rates for orthopedic surgeries
- Strong competition for patients and surgeons

RESULTS

Identified savings of over \$1.8 million and opportunities to substantially grow volume



INTRODUCTION

The hospital is a large, 531-bed academic acute care hospital that is the anchor hospital for an eight hospital network in the Mid-Atlantic United States. The hospital has 21 orthopedic, neurology and pediatric surgeons, 29 operating rooms and conducts over 2,000 inpatient joint, spine and fracture procedures annually. Accelero was brought in to evaluate the musculoskeletal service line and provide a strategic plan to improve care, efficiency and market share.

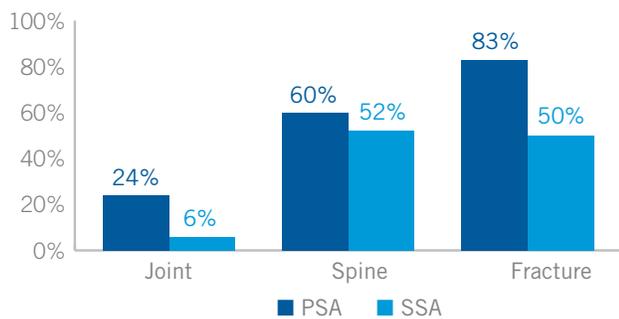


FIGURE 1 | Hospital market share in primary service area (PSA) and secondary service area (SSA).

FINDINGS

The musculoskeletal service line generates \$11.6 million annually, with spine accounting for nearly half of the contribution margin, inpatient fracture representing 18% and joint 5%. An analysis of the hospital market share in each of the three major musculoskeletal product lines for the both the primary and secondary market can be seen in [FIGURE 1](#).

The overall market is expected to grow 3.6% over the next five years with those aged 65 and older growing by 30.2%, representing a significant opportunity.

The joint product line had a small market share with a large portion coming from outside of the primary and secondary service areas, a high coded complication rate (15.5%), and a higher than average length of stay. All of these factors contributed to a high cost of care, resulting in a contribution margin of only 7% per surgical patient.

The spine product line had a sufficient market share for inpatient procedures, a high coded complication rate (18.5%) and a length of stay that was nearly a full day (0.93) greater than the Medicare geometric mean length of stay.

Although the fracture product line enjoyed solid metrics with a good market share, the cost per surgical patient was 32% higher than the average in the Accelero hospital database.

RECOMMENDATIONS

Accelero provided a plan to improve care, increase efficiency and grow volume. The high-level focus included creating a service line infrastructure, organizing the continuum of care for orthopaedic patients and establishing a marketable brand.

Service Line Infrastructure

Musculoskeletal services represent one of the hospital's largest profit centers, comprised of products and services that are largely elective and consumer-driven. These services must have a coordinated service line approach, one that organizes the management team into subspecialty product teams that focus on improving care, increasing margins and building volume.

As part of the infrastructure, a service line director is necessary with multi-disciplinary teams to support each of the product lines.

Developing product line dashboards will enable the tracking and management of key factors that affect performance. And there needs to be a plan to engage the physicians both at a strategic and operational level.

Continuum of Care

The clinical outcomes for both joint and spine patients were below the 25th percentile compared to the Accelero hospital database (FIGURE 2), driving up the cost of care by approximately 40% for those patients. The joint and spine product line teams need to determine the root cause of complications, identify the risk factors and implement a risk reduction process to prevent future occurrences. The teams also need to focus on the pre-admission process, making sure that patients are properly optimized prior to the day of surgery.

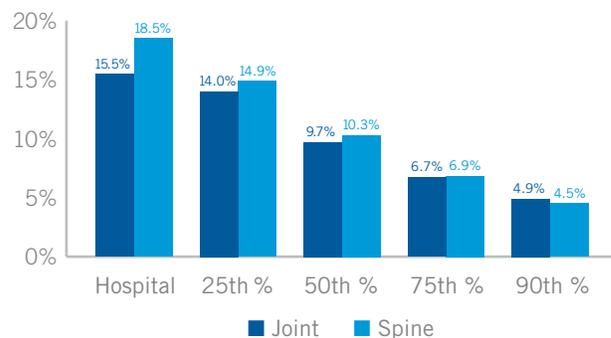


FIGURE 2 | Complication rates for the hospital v. hospitals in the Accelero database.

By reducing the complication rate, the average length of stay will also decline. Quite often, physician variability contributes to a higher length of stay. By engaging those physicians, the teams can collaborate on creating a standardized pathway. The data also shows that 18% of joint replacement patients and a larger number of spine patients have a length of stay one to two days higher than the GMLOS. Generally, this is an indication that communication does not occur consistently or timely between the physician, patient, family and care providers.

To maximize the contribution margin per case, orthopaedic surgery requires efficient processes designed to minimize perioperative time. For example, OR efficiency can be increased by comparing actual surgical times to the schedule defaults and adjust accordingly. Using Lean methodology and conducting many of the pre-operative steps in parallel, while the patient is in the room, can reduce turnover time by as much as 10 minutes per procedure. Additional time can be saved by establishing on-going reviews of surgeon metrics, improving communication and accessibility of anesthesia, staggering first case starts, and instituting weekly surgery team reviews. In all, Accelero identified the opportunity to reduce orthopaedic procedures by over 20 minutes per case, saving the hospital in excess of \$600 per procedure.

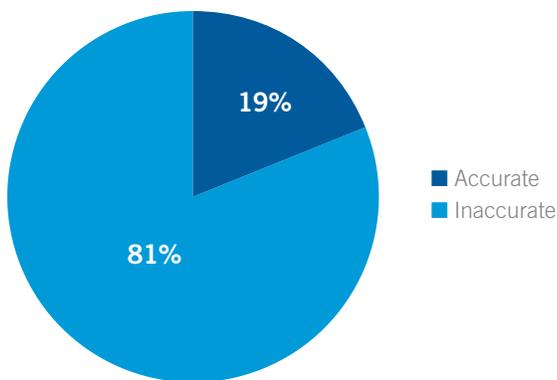


FIGURE 3 | Orthopedic procedure scheduling where the duration is accurate to within 15 minutes of schedule.

Marketing for Growth

The recommended strategies and tactics will improve both the cost of care and patient satisfaction, while creating a better business case for growing market share. The hospital has an opportunity to brand and promote a full musculoskeletal service line of subspecialties to improve awareness and shape perception through a solid referral network and organized community relations.

To achieve market growth, Accelero provided market specific recommendations to the hospital in the following areas:

- Distinctive musculoskeletal brand strategy that aligns consumer values and creates differentiation from the competition.
- Specific target consumer communities and key referral sources that present the greatest volume opportunity.
- Comprehensive promotion strategy and plan that includes marketing, advertising, public relations, and digital components.

SUMMARY

Accelero conducted an analysis of the musculoskeletal service line and identified savings opportunities of over \$1.8 million by improving care and efficiency (TABLE 1).

Additionally, the hospital has a significant opportunity to grow volume and market share by branding the musculoskeletal service line as a comprehensive set of subspecialties under the same name and marketing to the community.

Impact area	Financial Impact (Savings)
Reduced orthopedic procedure time (In to Cut, room turnover)	\$1,214,400
LOS and complication reduction (Spine)	\$582,552
LOS and complication reduction (Joint)	\$55,800
LOS and complication reduction (Fracture)	\$32,800
Total Savings	\$1,885,552

TABLE 1 | Accelero identified cost savings for the orthopaedic service line at the hospital.



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