

# Accelerero Helps Hospital Improve Joint Replacement Outcomes



Process improvements reduce complication rate and lower the cost of care

## ■ AT A GLANCE

- 214-bed not-for-profit, full service hospital
- Member of multi-state independent delivery network (IDN)
- Dedicated orthopedics unit

## ■ ISSUES

- High coded complication rate for joint replacement cases
- Longer length of stay driving up costs
- Fragmented pre-operative and postoperative care between surgeons and medical providers

## ■ RESULTS

Reduced the complication rate and length of stay for joint replacement patients with complications, saving the hospital over \$80,000 in two years.

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## INTRODUCTION

The hospital is a not-for-profit, 214-bed, full service hospital located in the Appalachian region of the United States. The hospital has a dedicated orthopedic and neurosurgery unit with 16 inpatient rooms.

Clinical outcomes for joint replacement patients at the hospital are below par even after factoring in the extraordinarily high obesity rate of the local metropolitan area. High coded complication rates have driven up the length of stay and cost for these procedures. Additionally, patient satisfaction has been impacted. The hospital received scores of one star (out of five) for total hip replacements and three stars for total knee replacements on Healthgrades.

Hospital management enlisted Accelerero Health Partners to implement a plan to improve the quality of care with a targeted focus on the high coded complication rate and length of stay for joint replacement patients.

At the outset, the coded complication rate for total joint replacement patients was 13.5%, ranking slightly above the 25th percentile of all hospitals in the Accelero database. With 416 total joint replacements, the hospital experienced an additional 126 bed-days or an incremental cost of \$1408 per joint replacement patient.

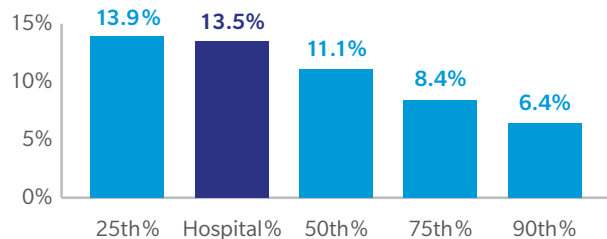


FIGURE 1 | Joint replacement coded complication rate.

## SOLUTION

As part of the solution, Accelero personnel reviewed the distribution of complications, conducted root cause analyses and implemented plans to reduce their occurrences. Of particular concern were the high occurrences of renal failure, urinary and cardiac complications. A multi-disciplinary team was utilized to implement and improve the pre-surgical process, patient optimization and improve care for at-risk patients. Medical record documentation was also evaluated to ensure the documentation accurately represented the care provided and a proper code was attached to the record.

### Pre-surgical Optimization Process

Processes were implemented to identify, document and treat co-morbidities that may lead to post-operative complications. Involving hospitalists in the treatment added consistency to the documentation of identified conditions, which enabled greater attention to post-surgical care.

Timely consults and collaboration with cardiology supported the reduction of cardiac complications. Implementing consistent and timely patient education to ensure patients were prepared for surgery helped to improve patient expectations and outcomes.

### Improve Care for At-risk Patients

Risk reduction protocols for at-risk patients and regular reviews of joint replacement pathways, order sets and protocols ensured better coordination of evidence-based care. Processes governing urinary catheter use and fluid management helped to reduce urinary and renal failure complications.

## SUMMARY

The hospital was able to reduce the complication rate for total joint replacement patients by 48% (from 13.5% to 7.0%); reducing renal failure complications by 47%, urinary complications by 36% and cardiac complications by 60%.

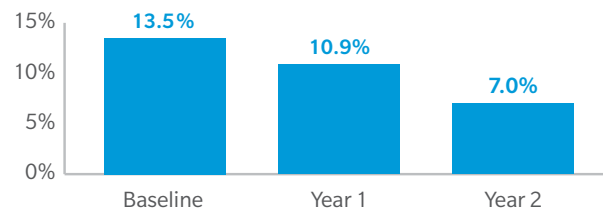


FIGURE 2 | Joint replacement coded complication rate.

Implementing risk reduction protocols, using evidence-based care and enhancing patient education improved the overall quality of care for joint replacement patients. And, the average length of stay for patients with coded complications decreased by more than a day. As a result, the hospital realized savings of \$80,061 over two years.