

Accelerero Assesses Hospital's Hip Fracture Program and Provides Guide to Success



Focus on admit to surgery processes and complication reduction

■ AT A GLANCE

- 397 bed level 2 trauma center in the Midwest
- Part of a 10 hospital regional health system
- Averaging nearly 200 hip fracture surgeries per year
- Significant focus over the past five years on the joint replacement program

■ ISSUES

- Limited focus on hip fracture program
- Opportunities to improve length of stay with focus on time from admission to surgery
- Worse than average in coded complications

■ IDENTIFIED OPPORTUNITY

- Patients to surgery within 16 hours of admission
- Pain management beginning in the emergency department
- Optimization process for high-risk patients
- Patient and family education

INTRODUCTION

The hospital is a 397 bed level 2 trauma center in the Midwest that is part of a regional healthcare system. The hospital has received numerous accolades for its cardiovascular and joint replacement programs including multiple disease specific certifications from The Joint Commission. In addition, the hospital is recognized as providing the best value (best care and lowest cost) for their joint replacement program within their health system.

Accelerero had worked with this hospital for multiple years in the development and consistent improvement of their joint replacement program. The hospital realized the need to now focus on another higher volume but more complicated orthopaedic population: the hip fracture patient. They partnered with Accelerero on a detailed analysis of their hip fracture program that included a review of current process and outcomes data, perioperative observations along with interviews and process mapping focusing on all aspects of preoperative and postoperative care.

During the analysis, several opportunities were prioritized for early implementation. As shown in [FIGURE 1](#) (on the next page), there were multiple surgeons performing the hip fracture cases with significant variation in the length of stay as measured by the percentage of patients discharged in four days or less. This was due mostly to a lack of consistent preoperative and postoperative care plans and pathways. In addition, nearly 40% of the patients were operated on after 3:30 pm.

The hospital's coded in-hospital complication rate for their hip fracture patients was 28.1%. This placed the hospital below the 25th percentile when compared to the Accelerero *OrthoVal*[®] comparative database. Their coded complications for their joint replacement patients were consistently in the 90th percentile.

Surgeon	Hip Fracture Repair	Partial Hip
Surgeon 1	53%	40%
Surgeon 2	67%	33%
Surgeon 3	92%	60%
Surgeon 4	67%	50%
Surgeon 5	83%	25%
Surgeon 6	75%	50%
Surgeon 7	40%	33%
Surgeon 8	56%	25%

FIGURE 1 | % length of stay 4 days and < by procedure for each surgeon.

SOLUTION

While there were multiple recommendations made, the immediate focus was to create consistent care processes with the initial focus on the time from admission to surgery. The Accelero team mapped out the current processes and worked with the team to create a standard patient flow. This process was broken into two segments: admit in the emergency department to patient arrival on the nursing unit and nursing unit to operating room. FIGURE 3 shows a high level overview of the process from the nursing unit to operating room. Upon review of their processes, the team's new goal will be to have patients to surgery within 16 hours of admission.

To address the complication rate, both preoperative and postoperative elements were taken into consideration. Elements of preoperative order sets that included pain management beginning in the emergency department along with appropriate labs and diagnostics were recommended. An optimization process was defined for high-risk patients that included an INR algorithm, glucose management and appropriate timing of specialty assessment. Based on the breakdown of coded complications, the initial focus was on patients

with kidney failure and those with chronic lung conditions. Recommendations were also made to include preoperative education to both the patient and their family to establish expectations of the care process and reduce anxiety.

Post-operatively, similar risk reduction strategies were recommended including a respiratory therapy consult for patients at risk for pulmonary complications. Weight bearing status was better defined to allow for early mobility to reduce complications. Recommendations for continued patient and family education during the post-operative process were also made.

SUMMARY

Patients with hip fractures can be challenging due to their medical complexity and the need for coordination of multiple care providers and services. Through a rapid assessment of a current hospital partner, Accelero Health Partners was able to provide detailed and prioritized recommendations to improve patient flow pre- and post-operatively in order to optimize length of stay and consistency of care and decrease complications.

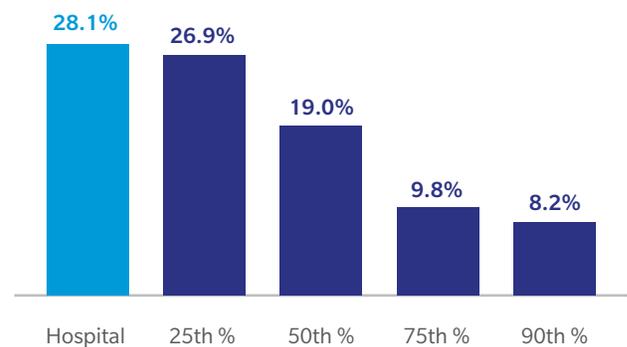


FIGURE 2 | Hospital's coded complication rate compared to Accelero's OrthoVal database

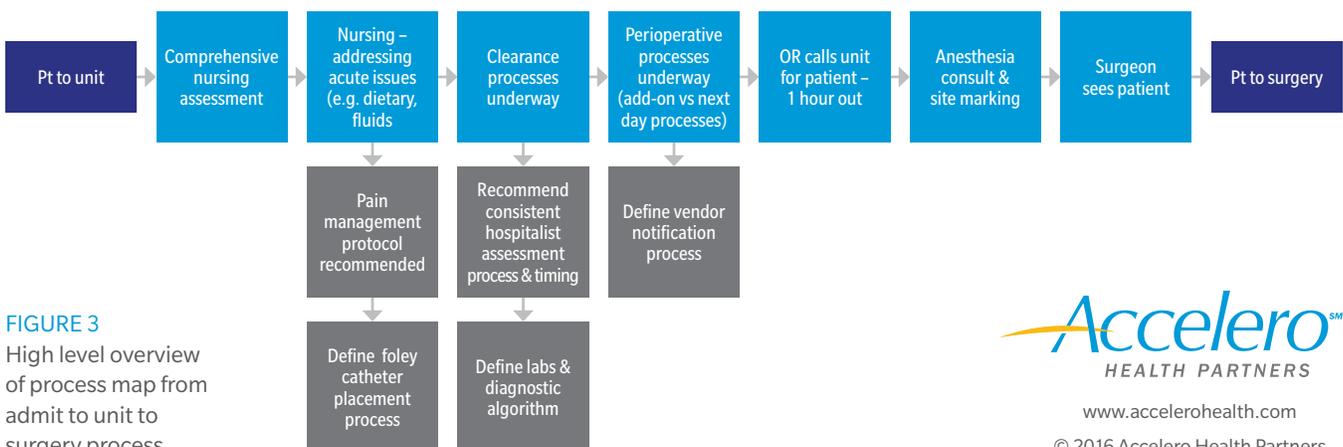


FIGURE 3 High level overview of process map from admit to unit to surgery process.