

# Are We Getting Better? ACS-NSQIP Hip Fracture Readmission and Length of Stay Trends, 2016-2021

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## INTRODUCTION:

Hip fractures among older adults are associated with significant morbidity, mortality, and healthcare expenditures. Contemporary trends in hip fracture outcomes have not been assessed in the literature and are critical to inform value-based care and improve outcomes. This study aims to examine trends in 30-day readmission and length of stay (LOS) among older adults after surgical fixation for hip fracture.

## METHODS:

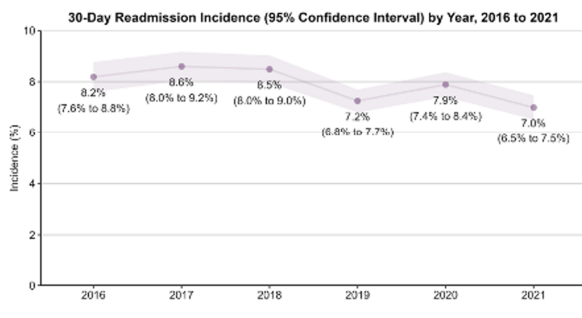
We analyzed the American College of Surgeons National Surgical Quality Improvement Program Targeted Hip Fracture (ACS-NSQIP THF) data from 2016 to 2021 (n=72,326; 130.7 annual mean participating sites), which targets patients who received surgical fixation of hip fracture patients. Patients were included in our analyses if they were aged ≥65 years. Our outcomes of interest were incidence of ≥1 30-day readmission (primary) and total hospital LOS (secondary). Trend analyses were conducted using the Cochran-Armitage Trend Test. All analyses handled missing data using complete case analysis.

## RESULTS:

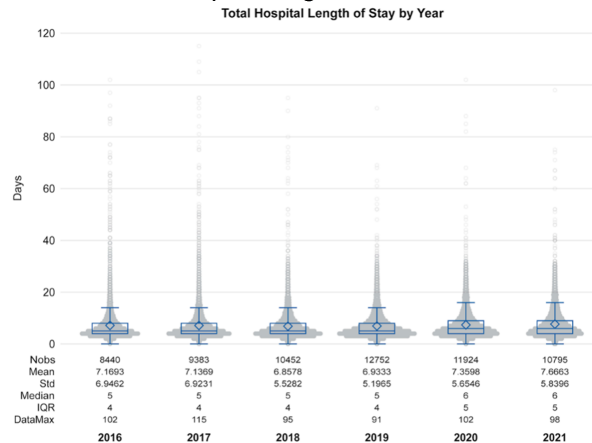
There were no missing data regarding 30-day readmission. We included 64,794 patients, of which 7.85% (95% CI: 7.64% to 8.05%) were readmitted within 30 days of hip fracture surgical fixation. We present proportion of patients with ≥1 30-day readmission over time in **Figure 1**; the Cochran-Armitage Trend Test indicated a statistically significant decreasing trend in the 30-day readmission incidence from 2016-2021 (p<0.0001). The mean absolute change in incidence from year-to-year was -0.24% (mean relative change, 0.97) and the total absolute difference in incidence from 2016 to 2021 was -1.20% (relative difference, 0.85). LOS data were missing for 1,048 cases (1.62%). Mean and median LOS were consistent across all years (**Figure 2**).

## DISCUSSION AND CONCLUSION:

This study identified the probability of having ≥1 30-day readmission decreased 0.85-times from 2016 to 2021, with a statistically significant downward trend over time. There were no meaningful changes in length of stay across the same time period. Our findings indicate that while improvements in readmission rates after hip fracture surgery are improving, LOS has remained static. Healthcare providers, policymakers, and stakeholders can utilize these findings to implement initiatives that enhance value-based care in hip fracture management and benchmark institutional metrics, ultimately improving patient outcomes and optimizing healthcare resources.



**Figure 1:** Hip Fracture Readmission Incidence Over Time, ACS-NSQIP Targeted Hip Fracture Patients 2016-2021



**Figure 2:** Hospital Length of Stay Over Time, ACS-NSQIP Targeted Hip Fracture Patients 2016-2021