

Hospital Length of Stay and Discharge Disposition after Primary Total Knee Arthroplasty



Real-world Analysis of 1,766 Patients who Received the ATTUNE® Knee System

Katherine Etter, PhD¹, Jason Lerner, PT, MBA, MSc², Carl de Moor, PhD³, Andrew Yoo, MD, MS⁴, Iftekhhar Kalsekar, PhD⁵, Vanessa Danielson, MSc⁶

1) Medical Device Epidemiology Postdoctoral Fellow, Johnson & Johnson, 2) Director, Market Access, DePuy Synthes Companies, 3) Research Professor, University of North Carolina, 4) Director, Epidemiology, Johnson & Johnson, 5) Senior Director, Health Informatics, Johnson & Johnson, 6) Director, Market Access, DePuy Synthes Companies

BACKGROUND

Hospitals and health systems bear increasing responsibility for demonstrating not only superior clinical outcomes, but also improved economics for patients who require total joint replacement. Most recently, the Centers for Medicare and Medicaid Services (CMS) finalized its Comprehensive Care for Joint Replacement Model (CJR) to shift financial risk to hospitals for a 90-day episode of care for lower extremity joint replacements. Hospital length of stay (LOS) has a well-understood impact on the economics of acute care, and discharge disposition has important implications for the care trajectory and costs incurred during the post-acute period after total joint replacement.

DePuy Synthes Companies of Johnson & Johnson understands that our hospital customers require products and services that streamline care and reduce costs, and for this reason is interested in quantifying real-world LOS and discharge disposition after total knee arthroplasty (TKA) with the ATTUNE® Knee System. The ATTUNE Knee System was designed to address the needs of patients, surgeons, and hospital providers around the world. Extensive research and science has gone into the design to help improve functional outcomes for patients, performance for surgeons, and efficiency for providers.

OBJECTIVES

To evaluate hospital length of stay (LOS) and discharge status for patients who received TKA with the ATTUNE Knee.

METHODS

We queried the Premier Perspective™ Database to identify patients with knee osteoarthritis who received unilateral, primary TKA with the ATTUNE Knee between January 2013 and December 2014. The Premier Perspective™ Database includes billing, cost, device, medication, and procedure data from more than 670 hospitals in the United States. Patients were identified in the database as having received primary TKA with the ATTUNE Knee using a combination of ICD-9-CM codes for total knee replacement and hospital charge descriptions for the ATTUNE Knee System.

RESULTS

1,766 patients received the ATTUNE Knee within a total of 55 hospitals over the observation period. The average age for patients in the sample was 67, and 63% of patients were female. A majority of patients received their TKA in urban, non-teaching hospitals in the Western region of the United States.

Eighty-five percent of patients (1,506/1,766) were discharged in three days or less (Figure 1), and average (Standard Deviation) hospital LOS was 2.89 days (1.03). Seventy-nine percent of patients (1,387/1,766) were discharged to home with or without home health care, while 21% were discharged to skilled nursing facilities (SNF) or other facilities (Figure 2).

Eighty-five percent of patients (1,506/1,766) were discharged in three days or less

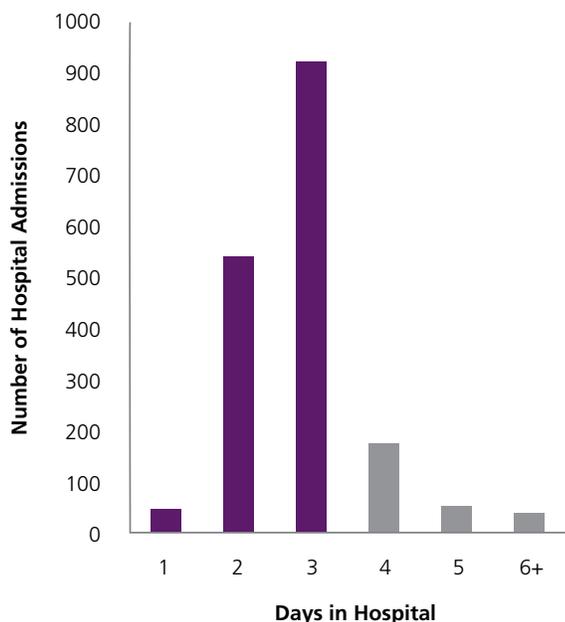


Figure 1

Seventy-nine percent of patients (1,387/1,766) were discharged to home

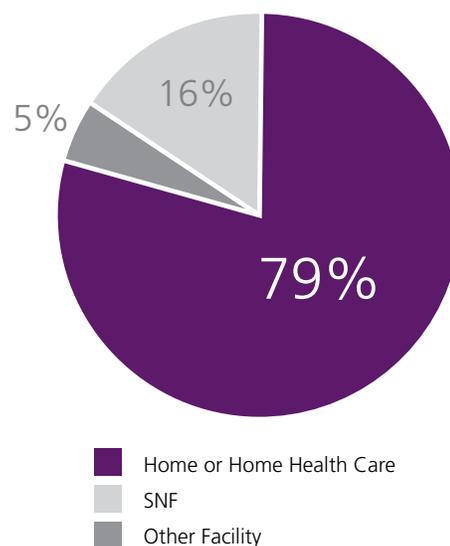


Figure 2

CONCLUSIONS

This analysis may be useful for hospitals that require real-world data on hospital LOS and discharge disposition for the ATTUNE Knee System. Comparative analyses and confirmatory analyses with alternative databases, and/or hospital-specific data, would be informative and are in process.

STRENGTHS AND LIMITATIONS

This study provides data for a large sample of patients who received primary TKA, and is unique in its linkage between medical devices and in-hospital length of stay and discharge disposition.

The ATTUNE Knee patients identified within the Premier Perspective™ Database may not be representative of all patients who receive primary, unilateral TKA with this implant system, and the analyzed cohorts reflect the subset of patients in the Premier Perspective™ Database for whom detailed device information was present. Finally, this analysis is subject to the limitations inherent to non-randomized, retrospective analyses of administrative data.

The third party trademarks used herein are the trademarks of their respective owners.