



Patient Factors and Cost Associated with 90-Day Readmission Following Total Hip Arthroplasty



Johannes F. Plate, MD, PhD^a, Matthew L. Brown, MD^a, Andrew D. Wohler, BS^a,
Thorsten M. Seyler, MD, PhD^{a,b}, Jason E. Lang, MD^a

^a Department of Orthopaedic Surgery, Wake Forest School of Medicine, Medical Center Boulevard, Winston-Salem, North Carolina

^b Department of Orthopaedic Surgery, Duke University Medical Center, Durham, North Carolina

ARTICLE INFO

Article history:

Received 28 May 2015

Accepted 17 July 2015

Keywords:

cost
Medicare
Medicaid
readmission
bundled payment
severity of illness

ABSTRACT

This study sought to identify specific costs for 90-day readmissions following total hip arthroplasty in a bundled payment system. Hospital billing records revealed 139 readmissions (8.93%) in 1781 patients. Mean costs for surgical readmissions were greater ($P = 0.002$) compared with medical reasons, but similar for Medicare/Medicaid and private payers ($P = 0.975$). Costs for imaging, laboratory workup, medication and transfusions, and hospital cost correlated with increasing SOI ($P < 0.05$). Patients transferred from outside hospitals or rehabilitation had higher hospital ($P = 0.006$) and operating room costs ($P = 0.001$) compared to patients admitted from ED or clinic. Hospitals that care for complex patients with Medicare/Medicaid may experience increased costs for unplanned 90-day readmissions highlighting considerations for payer mix.

© 2016 Elsevier Inc. All rights reserved.

The number of total hip arthroplasty (THA) procedures has risen drastically in recent years. Increasing life expectancy combined with demographic changes of the “baby boomer” generation have current projections predicting a 174% growth over the next fifteen years, resulting in 570,000 THA procedures being performed annually by 2030 [1,2]. This increase has led payors, providers and policy makers to emphasize cost control and quality improvement for elective surgical procedures such as THA [3]. As a result, the Center for Medicare and Medicaid Services (CMS) has recently added THA as a procedure for which value based payment strategies may soon be utilized.

Value based payments, including episode of care and bundled payments, offer many benefits in terms of cost savings as well as improving the continuum of care. However, they are also associated with financial risks for the hospitals [4]. These types of payments encourage better collaboration between all members of the care team in treating a discrete clinical condition; in the case of THA, degenerative joint disease [5]. Reimbursement is no longer tied to the specific services provided by

each team such as the traditional fee-for-service, but rather the cost of services must be accounted for within the fixed payment amount. Therefore, the different teams are encouraged to work together to control spending. The goal of these payment schemes is to shift the financial incentive away from the volume of services provided, which is supported with a fee-for-service plan, and toward coordinated, reliable care and improved overall quality [6]. Despite these benefits, there are also some risks that are assumed by the institution or provider who accepts bundled payments.

While THA is a surgical procedure that is successful in terms of improving healthcare related quality of life and patient satisfaction [7,8], the complications that can arise from the procedure can be severe and represent a major financial burden. Recent publications have documented that readmission cost may be similar to the cost of the initial admission and that the cost burden of these readmissions increases dramatically with the patients’ severity of illness (SOI) [9]. Many of the newer bundled care payments account for differences in patient severity of illness and co-morbidity by adjusting reimbursement models based on diagnostic related group severity of illness (DRG-SOI) code [5]. These codes range from 1 to 4 (minor to extreme disease severity) and are assigned to patients taking into account patient primary diagnosis and secondary co-morbidities. Higher SOI scores were found to increase readmission rates by up to 26% [9]. Furthermore, increasing SOI was shown to increase the cost of the unplanned readmission and treatment. Increased reimbursement based on the SOI is thought to ameliorate some of the cost burden for the hospital and providers associated

One or more of the authors of this paper have disclosed potential or pertinent conflicts of interest, which may include receipt of payment, either direct or indirect, institutional support, or association with an entity in the biomedical field which may be perceived to have potential conflict of interest with this work. For full disclosure statements refer to <http://dx.doi.org/10.1016/j.arth.2015.07.030>.

Reprint requests: Johannes F. Plate, MD, PhD, Department of Orthopaedic Surgery, Wake Forest School of Medicine, Medical Center Boulevard, Winston-Salem, NC 27157-1070.

Table 1
Patient Demographics.

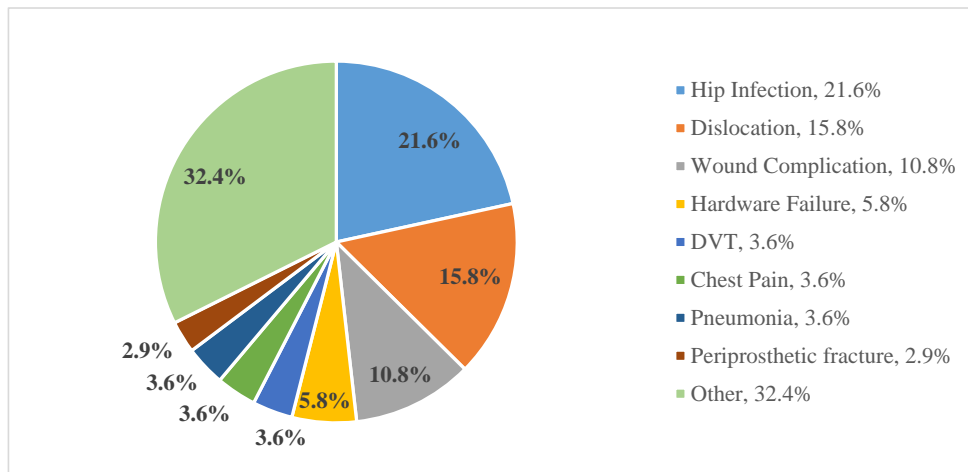
Gender N (%)	
Male	49 (41)
Female	71 (59)
Mean Age (SD), years	62.6 (15.4)
Age Group N (%), years	
<60	51 (43)
>60–70	28 (23)
>70–80	21 (17)
>80	20 (16)
Mean BMI (SD), kg/m ²	29.54 (7.30)
BMI Group N (%), kg/m ²	
<25	31 (26)
25–29.9	40 (33)
30–34.9	23 (19)
35–40	14 (12)
>40	11 (10)
Race N (%)	
African American	21 (17)
White	96 (80)
Hispanic	1 (1)
Other	2 (2)

with caring for complex patients. However, limited data is available on the actual reimbursement received by the hospital for unplanned readmissions and revision surgeries.

The purpose of this study was to identify specific areas of care in which cost can be potentially reduced to ease the financial burden of readmissions on hospitals that care for joint arthroplasty patients. This study used medical record and administrative financial data to identify patients undergoing THA between 2005 and 2012 and who were readmitted within 90 days after surgery to investigate hospital costs for specific areas in the patient care pathway that can potentially be reduced. Leading readmission diagnosis and their associated SOI were analyzed with the hypothesis that patients with greater comorbidities and higher SOI scores experienced increased readmission costs.

Methods

Medical record data was retrospectively reviewed for patients who underwent primary total hip arthroplasty between January 1, 2005 and December 31, 2012. Patients were recruited from the practices of all surgeons performing THA at a single institution. The hospital billing and total joints registry were queried using Current Procedural Terminology (CPT) codes to identify patients who underwent THA. A total of 1781 patients were identified. Medical records were then reviewed to confirm that the patients had undergone the indicated procedure. Patients who were readmitted within 90 days of the index procedure were identified.



Other (32.4%):

Hip pain	2.2%	Confusion	0.7%
Pulmonary Embolism	2.2%	Diarrhea	0.7%
Nausea/Vomiting	2.2%	Fall (associated hemothorax)	0.7%
Urinary tract infection	2.2%	Groin Pain	0.7%
Clostridium difficile colitis	1.4%	Heart Failure	0.7%
Hemorrhagic shock	1.4%	Jaundice	0.7%
Pyelonephritis	1.4%	Kidney stone	0.7%
Fall (associated fracture)	1.4%	Knee Infection	0.7%
Abdominal Pain	0.7%	Optic Neuritis	0.7%
Acute Cholecystitis	0.7%	Pericardial Effusion	0.7%
Acute Ischemia of RLE	0.7%	Rectal Bleeding	0.7%
Acute Renal Failure	0.7%	Sepsis	0.7%
Anemia	0.7%	Septic Thrombophlebitis	0.7%
AV Block	0.7%	Sudden loss of vision	0.7%
Bacterial Peritonitis	0.7%	Syncope	0.7%
Carotid Stenosis	0.7%	Urinary Retention	0.7%
Complicated Migraine	0.7%		

Fig. 1. Reasons for 90-day readmission.

Download English Version:

<https://daneshyari.com/en/article/6208691>

Download Persian Version:

<https://daneshyari.com/article/6208691>

[Daneshyari.com](https://daneshyari.com)