Assessing Representativeness and Outcomes of Medicare vs. Other Insurance Groups in THA: Implications for CMS' Upcoming Mandatory PROMs Reporting Policy

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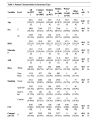
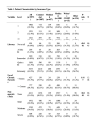
INTRODUCTION: Total hip arthroplasty (THA) is a common surgical procedure for treating end-stage hip osteoarthritis. Patient-reported outcome measures (PROMs) are increasingly used to assess the effectiveness of THA from the patient's perspective. The Centers for Medicare & Medicaid Services (CMS) has recently implemented mandatory reporting of PROMs for THA patients, focusing on the Medicare population. However, it is crucial to understand how well the Medicare cohort represents other insurance groups in terms of PROMs and substantial clinical benefit (SCB) achievement. This study aimed to 1) determine the proportion of THA patients represented by Medicare, Medicaid, Commercial, Workers' Compensation, and other insurance groups at a single center; 2) compare demographics between these groups; 3) compare the proportion of patients achieving SCB thresholds on HOOS JR between the groups; and 4) determine factors affecting the likelihood of achieving SCB for each insurance group.

METHODS: A prospective cohort of 9,973 patients undergoing primary elective THA between 2016-2021 from a single healthcare system was analyzed. The cohort was divided into Medicare (n=5,480) [inpatient (length of stay (LOS) >1 day) (n=2,108) and outpatient (LOS ≤ 1 day) (n=3,372)], Medicaid (n=457), Commercial (n=3,887), Workers' Compensation (n=15), and other (n=134) groups. Demographics and 1-year Hip Disability and Osteoarthritis Outcome Scores – Joint Replacement (HOOS JR) were compared between groups. Substantial clinical benefit was defined using the proposed threshold by CMS (22 points).

RESULTS: Medicare patients represented 55% of the total cohort, while Commercial, Medicaid, Workers' Compensation, and other insurance groups accounted for 39%, 4.6%, 0.15%, and 1.3%, respectively. Medicare patients were older (median age 71) compared to other insurance groups. (Table 1). The proportion of patients achieving SCB on HOOS JR was highest in the Commercial group (85.1%), followed by Medicare (82.6%), other insurance (81.1%), Workers' Compensation (80%), and Medicaid (73%). Multivariate logistic regression analysis revealed that outpatient status was associated with a higher likelihood of achieving SCB in the Medicare (OR 0.71, 95% CI 0.60-0.84) and Commercial (OR 0.70, 95% CI 0.56-0.89) groups. Higher education levels and better baseline PROMs were also associated with increased odds of achieving SCB across insurance groups. (Table 2)

DISCUSSION AND CONCLUSION: While Medicare patients represent the majority of the THA cohort, they may not fully represent the outcomes and characteristics of patients with other insurance types. Commercial insurance patients, who account for a substantial proportion of THA recipients, demonstrated higher rates of achieving SCB compared to Medicare patients. The new CMS policy focusing solely on Medicare patients may not capture the full spectrum of outcomes across different insurance groups. These findings underscore the importance of considering the representativeness of Medicare patients when interpreting and applying the results of mandatory PROMs reporting. Future studies should explore the implications of these differences in outcomes and patient characteristics on policy development and quality improvement initiatives in THA.





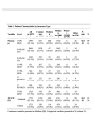


Table 2. Model for factors affecting failure to achieve HOOS JR SCB across different insurance types

	Commercial JR SCB (Failure)		Medicaid JR SCB (Failure)		Medicare JR SCB (Failure)	
Predictors	*Estimate [95%CI]*	*P-value*	*Estimate [95%CI]*	*P-value*	*Estimate [95%CI]*	*P-value*
Age (IQR Increase)	1.00 (0.86 – 1.17)	0.986	0.63 (0.45 – 0.87)	**0.005**	0.96 (0.82 – 1.11)	0.563
Sex (Male v Female)	1.09 (0.95 – 1.25)	0.475	1.12 (0.69 – 1.82)	0.644	1.09 (0.89 – 1.23)	0.390
BMI (IQR Increase)	1.06 (0.94 – 1.20)	0.330	0.72 (0.53 – 0.96)	**0.026**	1.01 (0.91 – 1.12)	0.856
Race (Non-white v White)	1.36 (1.01 – 1.84)	**0.046**	1.23 (0.70 – 2.14)	0.472	1.51 (1.16 – 1.97)	**0.002**
Education (IQR Increase)	0.88 (0.78 – 1.01)	0.072	0.89 (0.60 – 1.31)	0.556	1.05 (0.94 – 1.18)	0.369
Smoking (Quit v Never)	1.17 (0.95 – 1.46)	0.145	1.85 (0.53 – 2.98)	0.839	1.21 (1.03 – 1.42)	**0.022**
Smoking (Current v Never)	1.58 (1.13 – 2.21)	**0.007**	1.64 (0.87 – 3.10)	0.125	1.38 (0.92 – 1.84)	0.132
CCI (IQR Increase)	0.83 (0.79 – 1.08)	0.324	1.05 (0.77 – 1.44)	0.756	1.14 (1.04 – 1.24)	**0.003**
ADI (IQR Increase)	1.20 (1.01 – 1.43)	**0.038**	0.82 (0.49 – 1.38)	0.440	1.06 (0.92 – 1.21)	0.444
Outpatient v Inpatient	0.70 (0.58 – 0.88)	**0.003**	0.74 (0.45 – 1.21)	0.228	0.71 (0.60 – 0.84)	**<0.001**
P-PS1/MCS1 v P-PS-MCS-	2.62 (1.94 – 8.01)	**<0.001**	2.53 (1.14 – 5.62)	**0.023**	3.44 (2.48 – 4.41)	**<0.001**
P-PS-MCS- v P-PS-MCS-	6.85 (4.77 – 9.97)	**<0.001**	2.37 (1.24 – 5.55)	**0.011**	3.63 (2.79 – 4.72)	**<0.001**
P-PS-MCS+ v P-PS-MCS-	1.83 (1.08 – 3.45)	**0.026**	2.88 (0.35 – 12.42)	0.422	1.78 (1.19 – 2.66)	**0.005**
P-PS-MCS- v P-PS-MCS-	1.90 (1.07 – 3.48)	**0.030**	1.46 (0.33 – 3.97)	0.603	1.73 (1.17 – 2.56)	**0.006**
P-PS+MCS+ v P-PS-MCS-	3.24 (1.99 – 5.38)	**<0.001**	3.60 (1.09 – 11.99)	**0.035**	1.62 (1.01 – 2.49)	**0.029**
P-PC+MOC + P-PS-MCS-	3.72 (2.33 – 5.95)	**<0.001**	1.96 (0.84 – 4.55)	0.110	2.92 (2.07 – 4.13)	**<0.001**
P-PS-MCS+ v P-PS-MCS-	0.82 (0.45 – 1.38)	0.458	0.58 (0.25 – 1.44)	0.242	0.58 (0.38 – 0.87)	**0.008**
Observations	3482		386		6697	
R^2	0.124		0.127		0.091	