

Payor Type Is Associated with Increased Rates of Reoperation and Healthcare Utilization following Rotator Cuff Repair: A National Database Study

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INTRODUCTION:

Despite strong evidence supporting the efficacy of rotator cuff repair (RCR), previous literature has demonstrated that socioeconomic disparities exist between patients who undergo surgery. There is a paucity of literature examining whether payor type, including Medicare, Medicaid, and commercial insurance types, impacts early medical complications and rates of reoperation following RCR.

METHODS:

Patients with Medicare, Medicaid, or commercial payor type who underwent primary open or arthroscopic RCR between 2010 and 2019 were identified using a large national database. Ninety-day incidence of various medical complications, emergency department (ED) visit, and readmission, as well as one-year incidence of revision repair, revision to arthroplasty, and cost of care were evaluated. Propensity score matching was used to control for patient demographic factors and comorbidities as covariates.

RESULTS:

113,257 Medicare, 23,074 Medicaid, and 414,447 commercially insured patients were included for analysis. Medicaid insurance were associated with an increased 90-day risk of various medical complications, ED visit (OR 2.87; p<0.001) and one-year revision RCR (OR 1.60; p<0.001) compared to Medicare patients. Medicaid patients were also associated with an increased risk of 90-day medical complications, ED visit (OR 2.98; p<0.001), hospital readmission (OR 1.56; p=0.002), as well as one-year risk of revision RCR (OR 1.60; p<0.001) or conversion to arthroplasty (OR 1.4358; p<0.001) compared to commercially insured patients. Medicaid insurance was associated with a decreased risk of conversion to arthroplasty compared to Medicare patients (OR 0.6887; p<0.001). Medicaid insurance was associated with higher one year cost of care compared to patients with both Medicare (p<0.001) and commercial insurance (p<0.001).

DISCUSSION AND CONCLUSION:

Medicaid insurance is associated with increased rates of medical complication, healthcare utilization, and re operation following rotator cuff surgery, despite controlling for covariates. Medicaid insurance is also associated with a higher one-year cost of care. Additional work is required to understand the complex relationship between sociodemographic factors, like insurance status, and outcomes, to ensure appropriate healthcare access for all patients and to allow for appropriate stratification.

Table 1: 90-day Medical Complications Following RCR in Medicare and Medicaid Patients

Complication	Medicare (n=113,257)	Medicaid (n=23,074)	Commercial (n=414,447)	OR	95% CI	P
90-day mortality	104	72	1,048	4.4	3.285 to 5.876	<0.001
90-day ED visit	1,048	1,048	1,048	1.0	1.000 to 1.000	0.976
90-day readmission	1,048	1,048	1,048	1.0	1.000 to 1.000	0.976
90-day revision RCR	1,048	1,048	1,048	1.0	1.000 to 1.000	0.976
90-day conversion to arthroplasty	1,048	1,048	1,048	1.0	1.000 to 1.000	0.976
90-day cost of care	1,048	1,048	1,048	1.0	1.000 to 1.000	0.976

Table 2: One-year Return to Surgery and Healthcare Utilization Following RCR in Medicare and Medicaid Patients

Complication	Medicare (n=113,257)	Medicaid (n=23,074)	Commercial (n=414,447)	OR	95% CI	P
1-year mortality	1,048	1,048	1,048	1.0	1.000 to 1.000	0.976
1-year ED visit	1,048	1,048	1,048	1.0	1.000 to 1.000	0.976
1-year readmission	1,048	1,048	1,048	1.0	1.000 to 1.000	0.976
1-year revision RCR	1,048	1,048	1,048	1.0	1.000 to 1.000	0.976
1-year conversion to arthroplasty	1,048	1,048	1,048	1.0	1.000 to 1.000	0.976
1-year cost of care	1,048	1,048	1,048	1.0	1.000 to 1.000	0.976

Table 3: 90-day Medical Complications Following RCR in Medicare and Commercial Patients

Complication	Medicare (n=113,257)	Commercial (n=414,447)	OR	95% CI	P
90-day mortality	1,048	1,048	1.0	1.000 to 1.000	0.976
90-day ED visit	1,048	1,048	1.0	1.000 to 1.000	0.976
90-day readmission	1,048	1,048	1.0	1.000 to 1.000	0.976
90-day revision RCR	1,048	1,048	1.0	1.000 to 1.000	0.976
90-day conversion to arthroplasty	1,048	1,048	1.0	1.000 to 1.000	0.976
90-day cost of care	1,048	1,048	1.0	1.000 to 1.000	0.976

Table 4: One-year Return to Surgery and Healthcare Utilization Following RCR in Medicare and Commercial Patients

Complication	Medicare (n=113,257)	Commercial (n=414,447)	OR	95% CI	P
1-year mortality	1,048	1,048	1.0	1.000 to 1.000	0.976
1-year ED visit	1,048	1,048	1.0	1.000 to 1.000	0.976
1-year readmission	1,048	1,048	1.0	1.000 to 1.000	0.976
1-year revision RCR	1,048	1,048	1.0	1.000 to 1.000	0.976
1-year conversion to arthroplasty	1,048	1,048	1.0	1.000 to 1.000	0.976
1-year cost of care	1,048	1,048	1.0	1.000 to 1.000	0.976

Table 5: 90-day Medical Complications Following RCR in Medicare and Medicaid Patients

Complication	Medicare (n=113,257)	Medicaid (n=23,074)	Commercial (n=414,447)	OR	95% CI	P
90-day mortality	1,048	1,048	1,048	1.0	1.000 to 1.000	0.976
90-day ED visit	1,048	1,048	1,048	1.0	1.000 to 1.000	0.976
90-day readmission	1,048	1,048	1,048	1.0	1.000 to 1.000	0.976
90-day revision RCR	1,048	1,048	1,048	1.0	1.000 to 1.000	0.976
90-day conversion to arthroplasty	1,048	1,048	1,048	1.0	1.000 to 1.000	0.976
90-day cost of care	1,048	1,048	1,048	1.0	1.000 to 1.000	0.976

Table 6: One-year Return to Surgery and Healthcare Utilization Following RCR in Medicare and Medicaid Patients

Complication	Medicare (n=113,257)	Medicaid (n=23,074)	Commercial (n=414,447)	OR	95% CI	P
1-year mortality	1,048	1,048	1,048	1.0	1.000 to 1.000	0.976
1-year ED visit	1,048	1,048	1,048	1.0	1.000 to 1.000	0.976
1-year readmission	1,048	1,048	1,048	1.0	1.000 to 1.000	0.976
1-year revision RCR	1,048	1,048	1,048	1.0	1.000 to 1.000	0.976
1-year conversion to arthroplasty	1,048	1,048	1,048	1.0	1.000 to 1.000	0.976
1-year cost of care	1,048	1,048	1,048	1.0	1.000 to 1.000	0.976