Health insurance payor type and care deviations in trauma patients with lower extremity fractures

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Introduction

Lower extremity fractures result in significant morbidity and mortality, with rehabilitation therapy after injury essential to improving outcomes. Understanding how health insurance coverage may act as a benefit or barrier in accessing post acute services is limited. We sought to determine the association of insurance payor type with access to facility-based rehabilitation after sustaining lower extremity fractures and assess for care deviations between qualified provider recommendations and discharge destination.

Methods

A retrospective, cross-sectional study was performed at an American College of Surgeons-verify d level 1 trauma center and stratified 2570 patients with lower extremity fractures by health insurance payor type (2016–2022). Care deviation was evaluated as discrepancy of final discharge destination from Physical Therapist and Physical Medicine and Rehabilitation physician recommendations.



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Results

Table 4 Multivariate analysis: likelihood of disposition to acute or subacute rehab

Variable	Dispo	OR	95% CI	P value
Age	Acute rehab	1.05	1.04 to 1.06	<0.0001
	Subacute rehab	1.06	1.05 to 1.07	<0.0001
ISS	Acute rehab	1.22	1.18 to 1.26	<0.0001
	Subacute rehab	1.19	1.16 to 1.23	<0.0001
Female sex	Acute rehab	1.38	1.03 to 1.84	0.0286
	Subacute rehab	1.19	0.90 to 1.58	0.2212
Race				
Asian/Amer Indian *et al*		0.90	0.48 to 1.66	0.7247
Black	Acute rehab	1.19	0.77 to 1.85	0.4315
Other		1.19	0.64 to 2.19	0.5811
White		Ref	–	–
Race				
Asian/Amer Indian *et al*		1.34	0.75 to 2.38	0.3196
Black	Subacute rehab	2.53	1.69 to 3.77	<0.0001
Other		1.13	0.64 to 2.01	0.6772
White		Ref	-	–
Non-Hispanic ethnicity	Acute rehab	1.14	0.65 to 1.98	0.6461
	Subacute rehab	0.80	0.48 to 1.34	0.3937
3+comorbidities	Acute rehab	2.31	1.67 to 3.19	<0.0001
	Subacute rehab	3.36	2.46 to 4.6	<0.0001
Discharge recommendation discrepancy	Acute rehab	0.196	0.135 to 0.286	<0.0001
	Subacute rehab	1.86	1.39 to 2.49	<0.0001
Insurance carrier				
Traditional Medicare		Ref	–	–
Managed Medicare		0.46	0.291 to 0.72	0.0008
Medicaid	Acute rehab	0.072	0.036 to 0.144	<0.0001
Managed Medicaid		0.152	0.084 to 0.275	<0.0001
Private insurance		0.216	0.138 to 0.338	<0.0001
Self-pay		0.004	<0.001 to 0.030	<0.0001
Insurance carrier				
Traditional Medicare		Ref	–	–
Managed Medicare		1.49	0.97 to 2.29	0.0688
Medicaid	Subacute rehab	0.225	0.122 to 0.41	<0.0001
Managed Medicaid		0.58	0.341 to 1.00	<0.0486
Private insurance		0.42	0.266 to 0.65	0.0001
Self-pay		0.103	0.044 to 0.243	<0.0001

ISS, Injury Severity Score; PM&R, physical medicine and rehabilitation; PT, physical therapy.

Traditional and managed Medicare patients were demographically similar and frequently discharged to facility-based rehabilitation (90.5%, 87.7%). Managed Medicare patients were less likely to be discharged to acute rehab (23.6% vs 55.8%) with frequent care deviations from discharge recommendations when compared with traditional Medicare (K=0.40, CI (0.34 to 0.47), K=0.76, CI (0.72 to 0.80)). Medicaid, managed Medicaid, self-pay and privately insured patients were less likely to be discharged to any facility (7.0% to 30.4%), with varying care deviations from discharge recommendations. All payor types were independently predictive of a decreased likelihood of facility-based rehabilitation and higher likelihood of care deviation when compared with traditional Medicare. Managed Medicare was independently predictive of a lower likelihood of discharge to acute rehabilitation (OR 0.46, 95% CI 0.29 to 0.72, p=0.0008).

Conclusion

Patients who sustain lower extremity fractures have highest rates of access to post acute services when covered by traditional Medicare. Frequent care deviation from rehabilitation recommendations in commercially administered insurance programs, especially in managed Medicare, highlights the powerful influence of insurance on adherence with clinician-directed care.

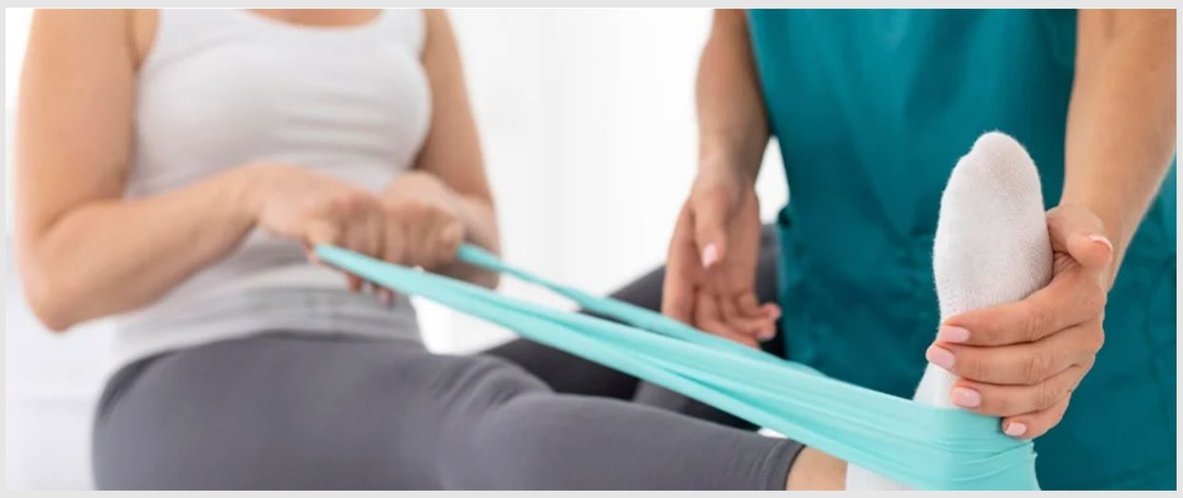
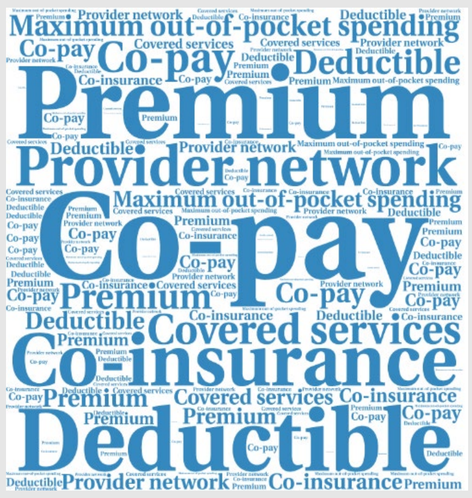


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References and Acknowledgements