



Predictors of Hand Therapy Non-Adherence Following Flexor Tendon Repair: A Retrospective Cohort Study

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BACKGROUND

- Though the best rehabilitation protocol following surgical repair of traumatic flexor tendon injuries is still debated, it is widely agreed that early mobilization under the guidance of occupational therapy (OT) helps prevent secondary tendon ruptures and promotes better functional results including range of motion.
- Despite this demonstrated importance, many patients are nonadherent to rehabilitative protocols, and the specific factors that affect OT adherence following flexor tendon repair are not well understood.
- The primary objective of this study is to examine predictors of patient non-adherence with hand therapy following repair of traumatic flexor tendon injuries.
- We hypothesized that patients with no health insurance or with Medicaid coverage would have an increased no-show rate to OT appointments following flexor tendon repair surgery compared to patients with Medicare, private health insurance, or worker's compensation coverage.

METHODS

- This retrospective cohort study included 154 patients who underwent surgical repair of flexor tendon injuries at a level I trauma center between January 2015 and January 2020.
- A manual chart review was performed to collect demographic data, insurance status, injury characteristics, and details of the postoperative course including health care utilization.

ACKNOWLEDGEMENTS

- Research support was provided by an award from the University of Wisconsin School of Medicine and Public Health and the Herman and Gwendolyn Shapiro Foundation.
- Thank you to Dr. Michelotti and the rest of the Division of Plastic and Reconstructive Surgery for their generous support, guidance, and collegiality!

RESULTS

- Patients without insurance attended 73.8% of their OT visits and patients with Medicaid attended 72.0% of their visits, which were significantly lower rates than those with private insurance 90.7% ($p=0.026$ and $p=0.001$, respectively).
- Patients with Medicaid were 8 times more likely to seek emergency department care postoperatively than patients with private insurance ($p=0.002$).

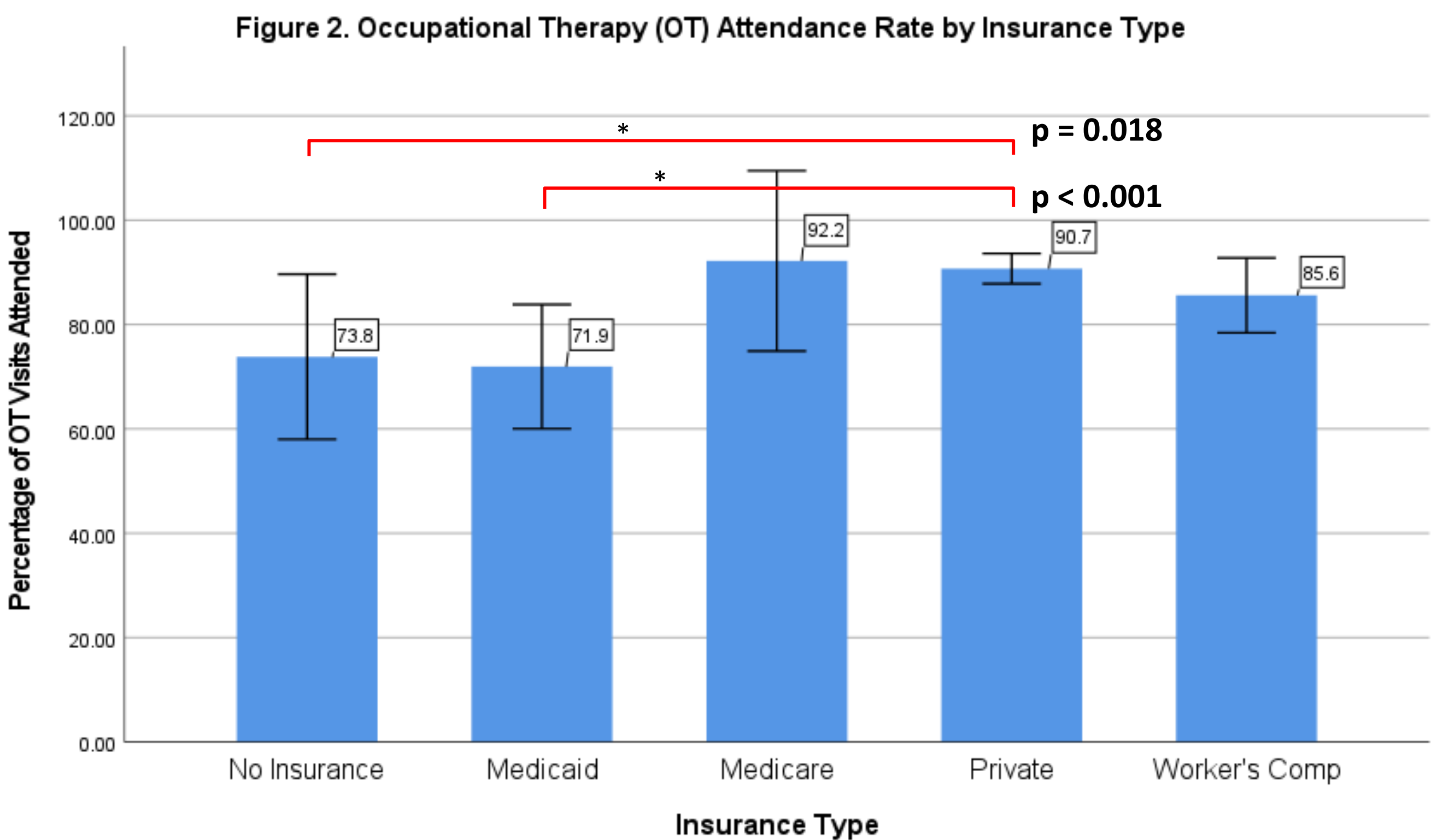
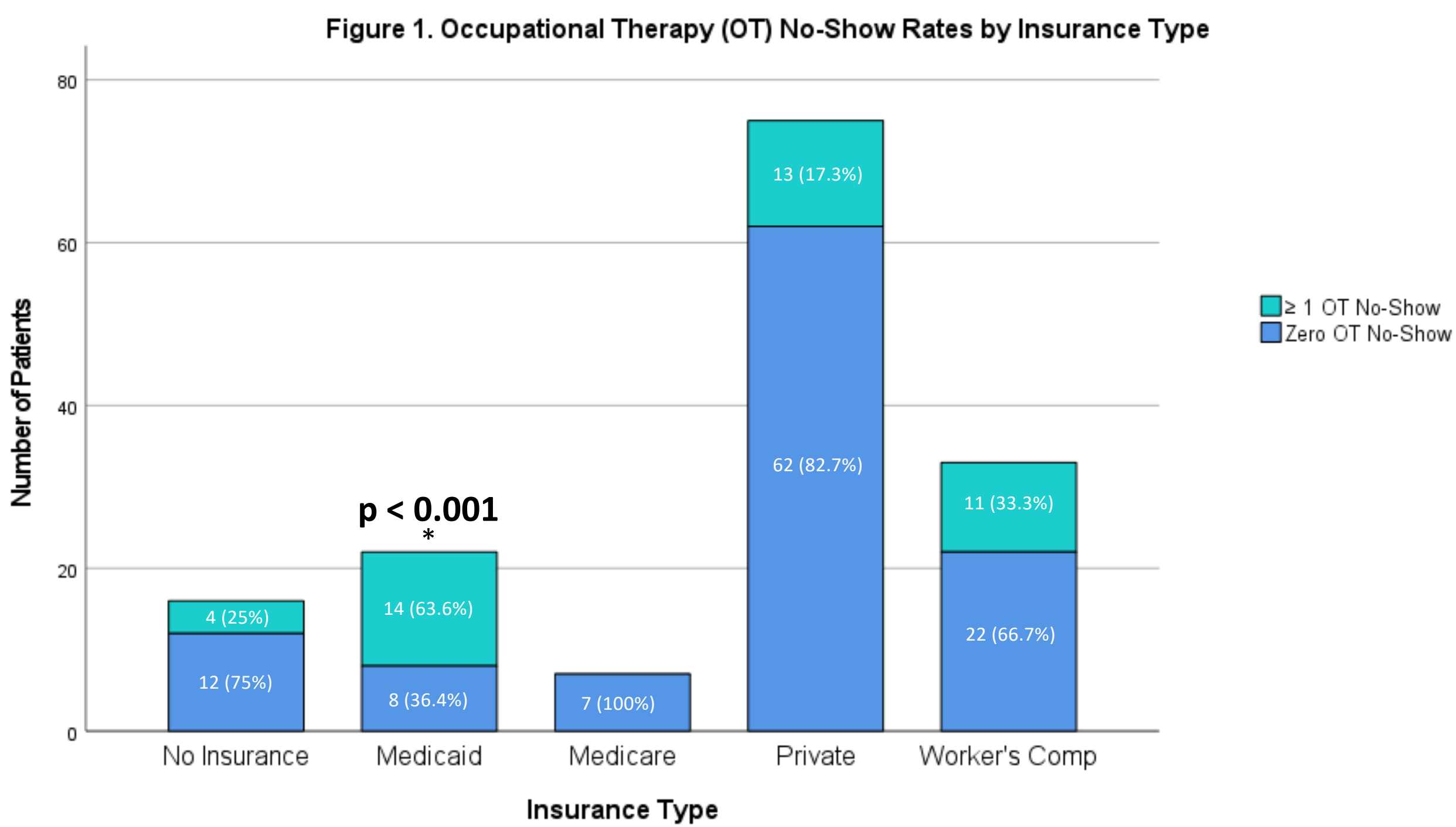


Table 1. Secondary Outcomes by Insurance Type

	No Insurance	Medicaid	Medicare	Private	Worker's Comp	Overall
OT Cancellations	7 (43.8%)	8 (36.4%)	2 (28.6%)	37 (49.3%)	18 (54.5%)	72 (47.1%)
Hand Clinic No-Show	6 (37.5%)	9 (40.9%)	1 (14.3%)	15 (20.0%)	8 (24.2%)	39 (25.5%)
ED Returns	1 (6.3%)	7 (31.8%)*	0 (0.0%)	4 (5.3%)	0 (0.0%)	12 (7.8%)

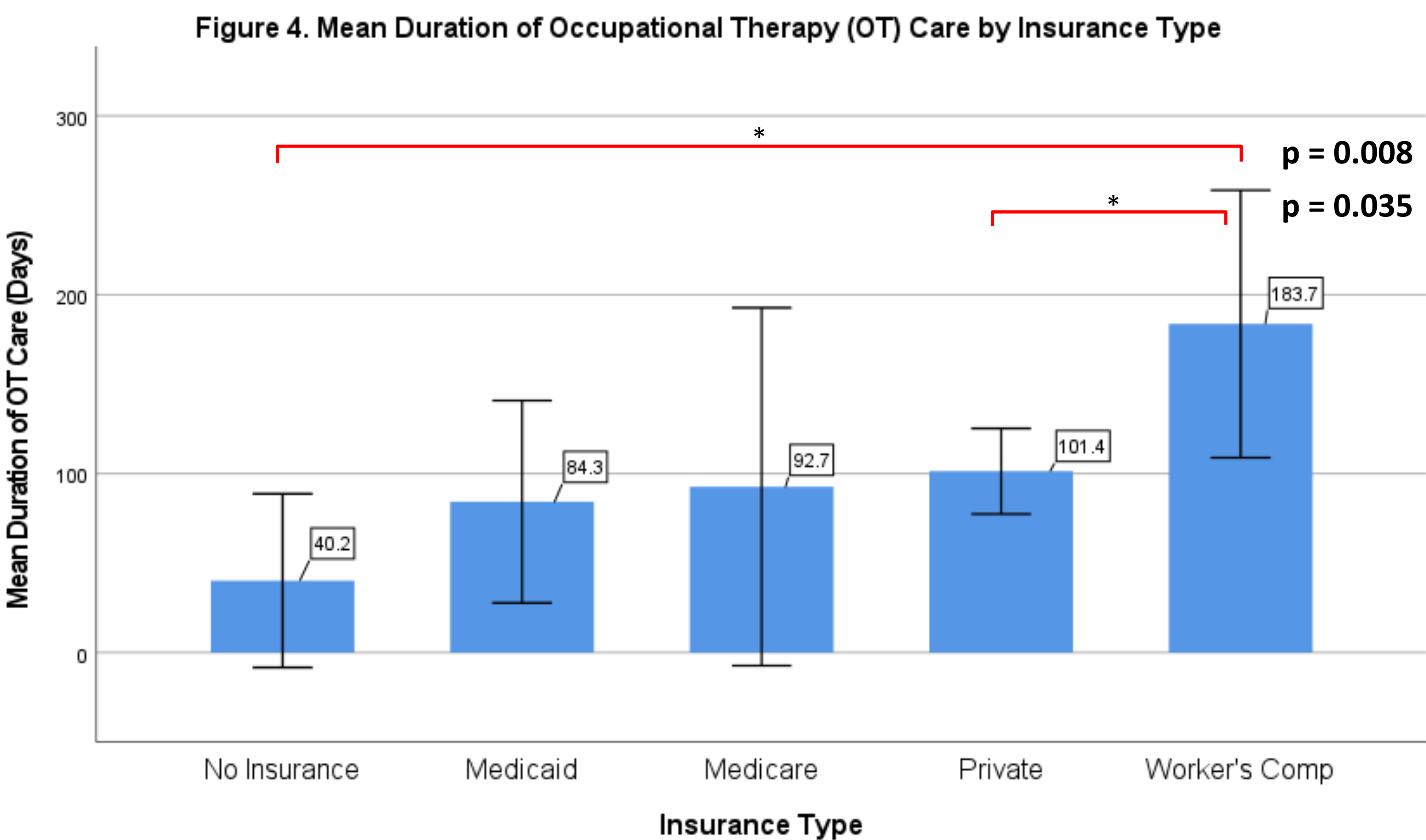
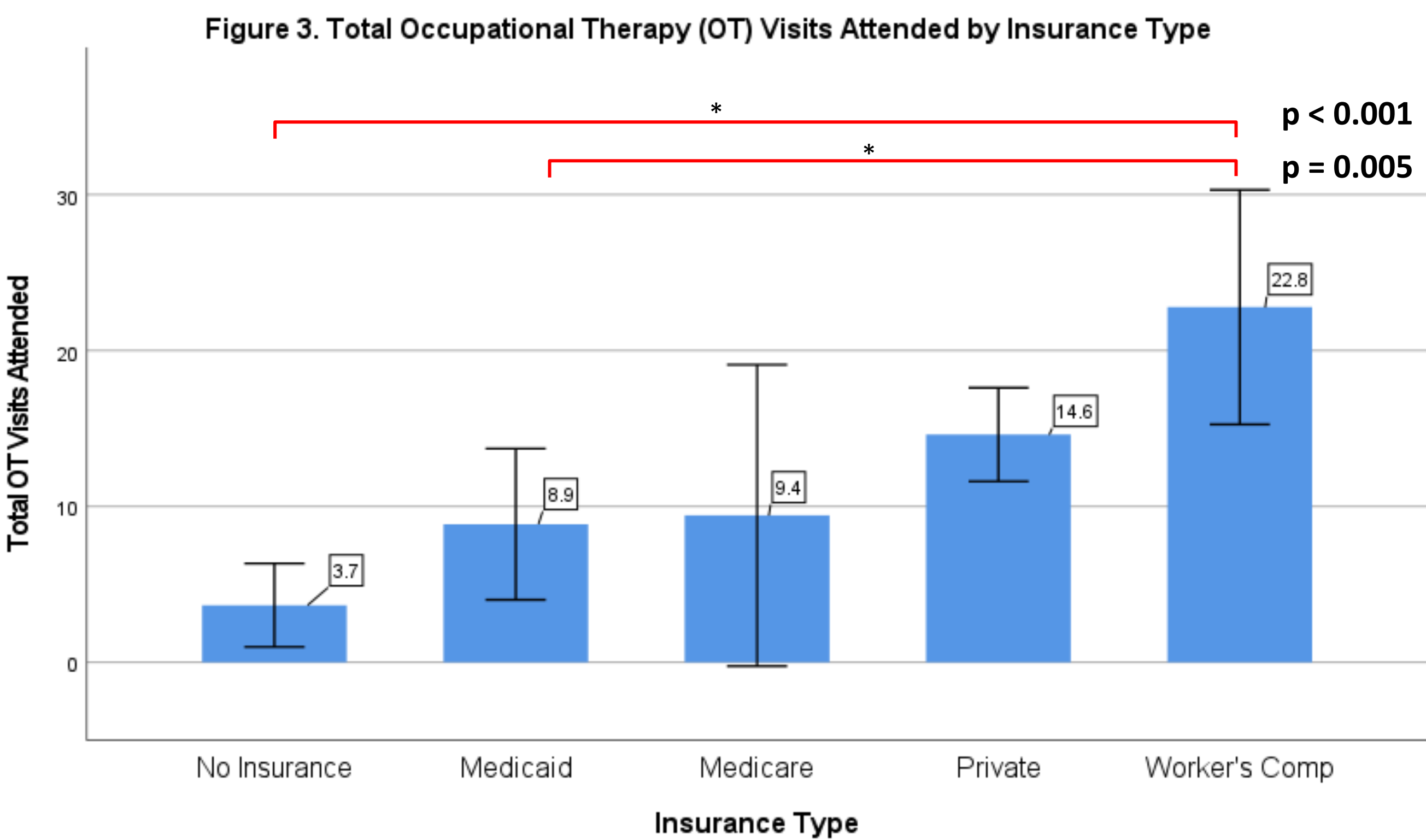


Table 2. Logistic Regression of Occupational Therapy No-Shows

Covariate	OR	95% CI for OR	p	AUC
Age	0.981	0.959-1.003	0.097	.570
Male-Sex	1.551	0.668-3.600	0.307	.542
Race (Ref, White)				.574
Black	7.275	1.782-29.695	0.006	
Other	1.559	0.137-17.730	0.720	
Insurance (Ref, Private)				.709
No Insurance	1.590	0.442-5.717	0.478	
Medicaid	8.346	2.907-23.959	<0.001	
Medicare	0.000	0.000-0.000	0.999	
Worker's Comp	2.385	0.933-6.097	0.070	
Smoking Status (Ref, Non-Smoker)				.593
Former Smoker	1.003	0.332-3.026	0.996	
Current Smoker	2.691	1.177-6.154	0.019	
Median Household Income	1.000	1.000-1.000	0.671	.518
Distance to OT, Min	1.008	0.999-1.017	0.078	.603
Injury to Dominant Hand (Ref, Non-Dominant Hand)	1.253	0.593-2.648	0.555	.528

CONCLUSION

- Significant disparities in hand therapy adherence following flexor tendon repair surgery exist between patients with different insurance statuses, races, and tobacco use.
- Understanding these disparities and the social determinants of health that cause them can help providers identify at-risk patients to improve hand therapy utilization and postoperative outcomes.
- We worked with OTs in the UW Hand Clinic to postulate new interventions to improve patient engagement with post-operative OT and plan to implement these interventions in the future.

Proposed Engagement Tool Developed in Consultation with Hand Therapists

Preoperative Interventions

- Pre-schedule first four postoperative hand therapy visits before surgery
- Pre-operative joint patient education visit with surgeon and hand therapist to establish:
 - Continuity between surgery and rehabilitation care
 - A realistic timeline for recovery
 - Understanding of the risks of hand therapy non-adherence
- Connect at-risk patients with social work

Postoperative Interventions

- Offer telemedicine hand therapy appointments for those with transportation barriers
- Use Hand Therapy Certification Commission website to schedule visits closer to home