

Racial Disparities in Physical Restraint Use: A Cross-Sectional Study at Two San Francisco Emergency Departments

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BACKGROUND

Black patients experience disproportionate rates of restraint use in the emergency department. Though systemic racism likely plays a role in this disparity, potential mediators of this impact have not been investigated. We compare rates of physical restraint between an academic and county Emergency Departments (EDs) to analyze what factors are associated with restraint use.

METHODS

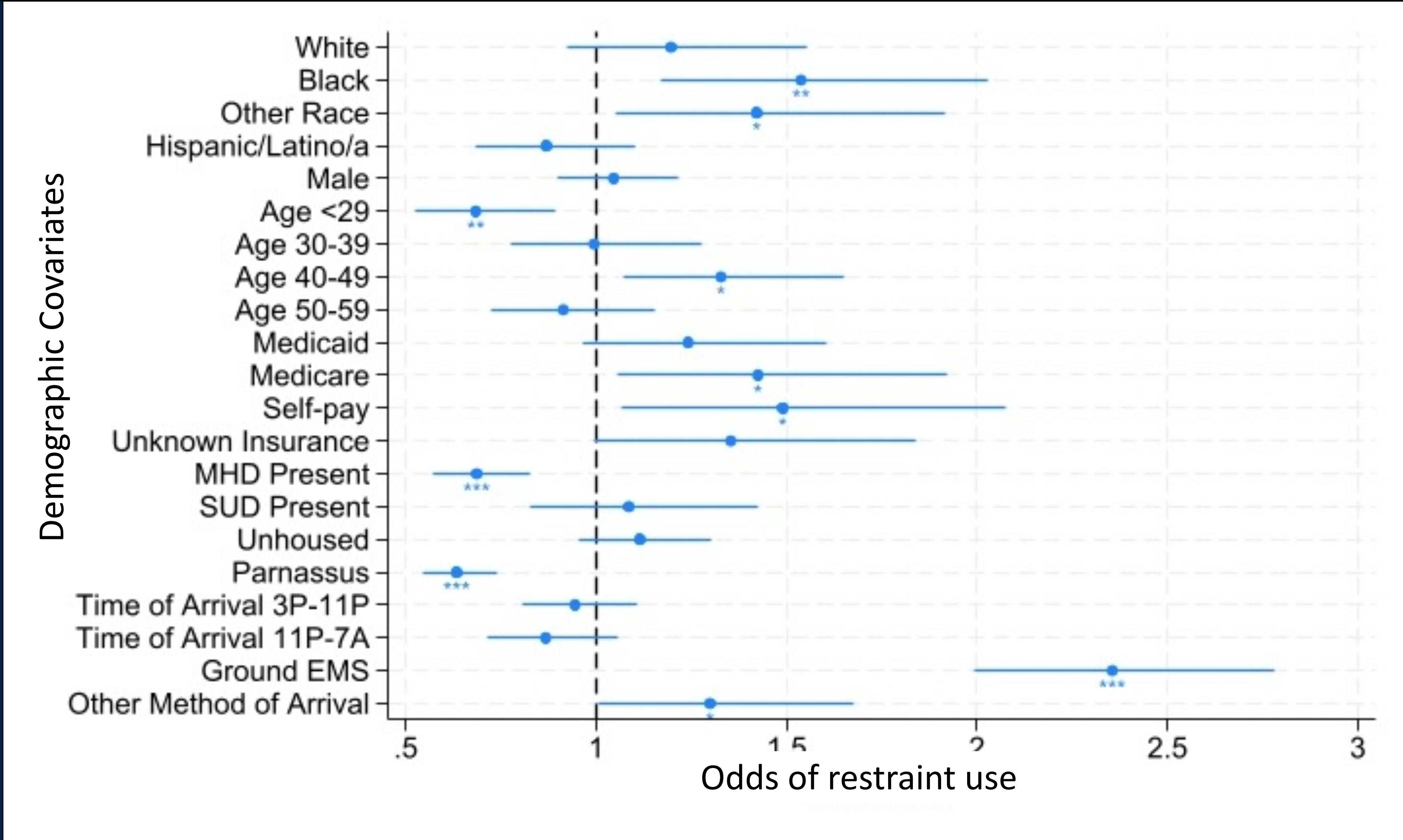
- We performed a retrospective, electronic health record-based, cross-sectional data collection on restraint use and demographic variables from adults seeking emergency mental health care.
- We calculated adjusted odds of restraint use by via multivariate logistic regression model
- Results were then stratified by hospital.

RESULTS

- 15.8% of all mental health-related encounters involved physical restraints, with variation between county and academic setting (19.2% vs 12.6%, respectively)
- Patients identified as Black race had the highest rate (24.8%) and significantly higher odds of restraint compared to the

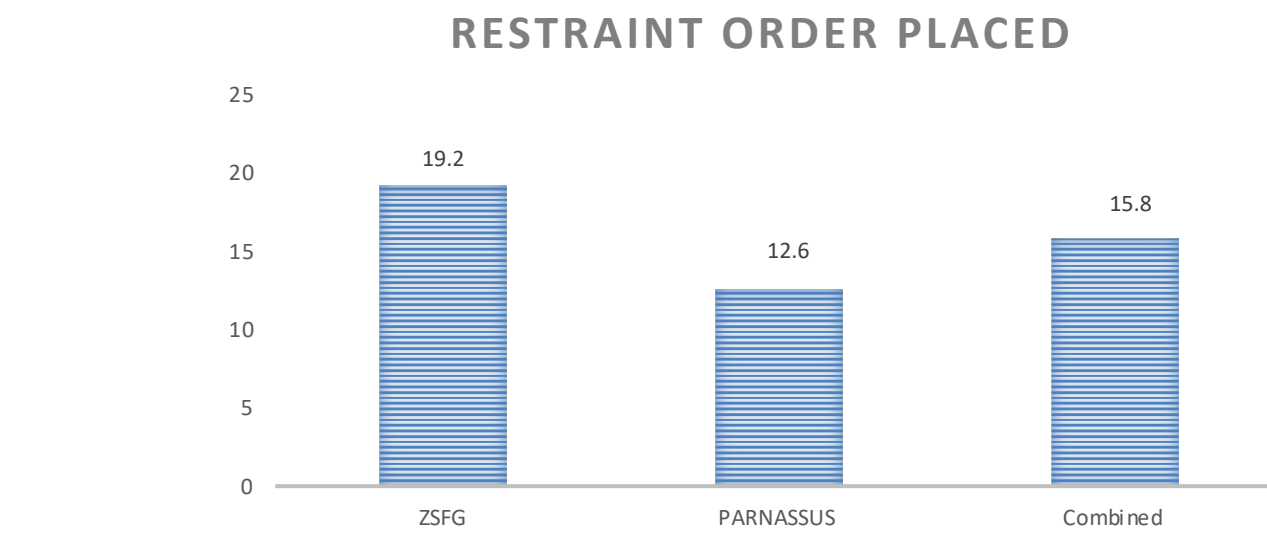
Black patients accessing emergency mental health care experienced higher rates of restraint regardless of hospital type.

Table 3: Logistic regression model predicting restraint use, Parnassus only				Table 3: Logistic regression model predicting restraint use, SFGH only			
	Odds Ratio	95% CI	p-value		Odds Ratio	95% CI	p-value
Race				Race			
Asian	Reference			Asian	Reference		
Black	1.77	[1.12, 2.79]	0.015	Black	1.44	[0.99, 2.09]	0.055
White	1.23	[0.81, 1.85]	0.330	White	1.23	[0.86, 1.76]	0.250
Other	1.27	[0.78, 2.09]	0.340	Other	1.53	[1.02, 2.30]	0.038
Ethnicity				Ethnicity			
Hispanic/Latino/a	1.07	[0.73, 1.59]	0.723	Hispanic/Latino/a	0.76	[0.55, 1.04]	0.084
Non-Hispanic/Latino/a	Reference			Non-Hispanic/Latino/a	Reference		



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Table 1: Descriptive Statistics for all variables			
	Restraint Order Placed		Total (n=6,631)
	No (n=5,580)	Yes (n=1,051)	
Race			
Asian	673 (12.1)	91 (8.7)	764 (11.5)
Black	1125 (20.2)	269 (25.6)	1394 (21.0)
White	2455 (44.0)	409 (38.9)	2864 (43.2)
Other	1327 (23.8)	282 (26.8)	1609 (24.3)
Ethnicity			
Hispanic/Latino/a	834 (14.9)	148 (14.1)	982 (14.8)
Not Hispanic/Latino/a	4581 (82.1)	851 (81.0)	5432 (81.9)
Unknown	165 (3.0)	52 (4.9)	217 (3.3)
Sex			
Female	2124 (38.1)	353 (33.6)	2477 (37.4)
Male	3444 (61.7)	692 (65.8)	4136 (62.4)
Other/Unknown	12 (0.2)	6 (0.6)	18 (0.3)
Age (years)			
<29	995 (17.8)	133 (12.7)	1128 (17.0)
30-39	1180 (21.1)	185 (17.6)	1365 (20.6)
40-49	1412 (25.3)	352 (33.5)	1764 (26.6)
50-59	1113 (19.9)	210 (20.0)	1323 (20.0)
60+	880 (15.8)	171 (16.3)	1051 (15.8)
Time of Arrival			
7A-3P	2078 (37.2)	413 (39.3)	2491 (37.6)
3P-11P	2414 (43.3)	438 (41.7)	2852 (43.0)
11P-7A	1088 (19.5)	200 (19.0)	1288 (19.4)
Insurance Type			
Commercial	1017 (18.2)	101 (9.6)	1118 (16.9)
Medicaid	2505 (44.9)	497 (47.3)	3002 (45.3)
Medicare	971 (17.4)	176 (16.7)	1147 (17.3)
Self-pay	416 (7.5)	119 (11.3)	535 (8.1)
Unknown	671 (12.0)	158 (15.0)	829 (12.5)
Housing Status			
Housed	3821 (68.5)	626 (59.6)	4447 (67.1)
Unhoused	1597 (28.6)	387 (36.8)	1984 (29.9)
Other	162 (2.9)	38 (3.6)	200 (3.0)
Mental Health Disorder*			
Absent	4002 (71.7)	858 (81.6)	4860 (73.3)
Present	1578 (28.3)	193 (18.4)	1771 (26.7)
Substance Use Disorder*			
Absent	5114 (91.6)	976 (92.9)	6090 (91.8)
Present	466 (8.4)	75 (7.1)	541 (8.2)
Arrival Method			
Ground EMS	1519 (46.8)	994 (56.0)	2513 (50.1)
Self	1157 (35.7)	531 (29.9)	1688 (33.6)
Police	263 (8.1)	194 (10.9)	457 (9.1)
Other	204 (6.3)	51 (2.9)	255 (5.1)
Unknown	101 (3.1)	4 (0.2)	105 (2.1)



DISCUSSION

Black-identifying race was one of the strongest predictors of restraint use, and race was significantly associated with odds of restraint across both hospitals. More research is warranted to assess how to improve disparities through restraint protocols and prehospital care.

ACKNOWLEDGEMENTS

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